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The Peril of the Sun Worshipper*

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In this high altitude part of the country where the sun shines most of the year the shorter light wave lengths are in much higher concentration than at the lower altitudes. We see many effects of these light waves not usually seen at sea level. To those who have been treating patients with skin diseases over many years the ill effects of the present trend to sun worshipping are well recognized, and the fad of excessive exposure of large areas of the body to the sun's rays has many dangerous and harmful sequelae which alarm us.

We are presenting this paper hoping to bring to physicians a more complete understanding of some of the harmful effects of these practices. Fortunately, those who practice sun bathing regularly are usually indoor workers and so do not get a great excess of actinic effect in line of duty. Those whose work keeps them outdoors much of the time are the ones who suffer most from these harmful effects.

All of us are familiar with the acute sunburn characterized by the rapid development of erythema, edema, vesiculation, with moderate to severe burning sensation. We will spend very little time on this more usual reaction except to mention some of the commonly used harmful methods of treatment.

The best method of treatment in these cases consists of simple, cool, wet dressings of boric acid or slightly hypertonic saline solution; in more severe cases compression dressings of vaseline or boric acid ointment. Harmful methods of treatment such as picric acid, tannic acid, butesin picrate, the various anesthetic ointments, such as those containing cocaine and procaine derivatives, or the antihistaminics frequently do more harm than good because of their tendency to sensitization of the skin.

We have so far considered the normal reaction of people to sunlight. For the balance of our discussion we will consider the various definite diseases of the skin produced by light sensitivity and some of their late harmful effects.

Solar Eczema

The term eczema has been applied to skin conditions characterized by epidermal hypersensitivity with the production of erythema, edema, vesiculation, oozing and crusting. The word eczema is from the Greek root meaning "to boil over." Thus in solar eczema we have a hypersensitivity to the sun's rays with the above characteristics. The areas of predilection are constant in all these solar sensitivity eruptions and are the upper rim of the external ear, the malar eminence, the cheeks, the lower lip, the dorsa of the hands and at times the arms. The period of first onset in these cases coincides with the early bright sun of spring, February, March and April.

Symptoms consist of moderate to severe stinging and burning sensations in the areas of predilection. Symptoms frequently precede signs, but the edema, erythema and vesiculation usually follow in a few hours. The symptoms of burning, stinging and itching may be very severe and by some this group of diseases is called the "prurigo of Hutchison" to emphasize the severity of the pruritic symptoms. These symptoms are usually present for a few hours, and then rather violent edema and erythema develop. The entire pinna of the ear may be terribly swollen; however, in women in whom the hair protects the upper part only the lobe of the ear may be involved. The lower lip commonly also shows this violent edema. In the other areas of predilection the edema is usually less violent. After a few hours the areas of erythema and edema are covered with vesicles which may be deep or superficial, depending on the violence of the reaction. These vesicles soon rupture and there is abundant oozing and later crusting. The acute reaction subsides in a few days. However, if this phenomenon repeats itself frequently each year for several years serious scarring and deformity may eventually develop.

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Solar Urticaria

Here the patient manifests his hypersensitivity to the sun's rays by the development of urticarial wheals in the areas of predilection described above. Vesiculation, oozing and crusting do not develop. In all these sun sensitivity reactions the wave length responsible varies considerably. Some react to the longer wave lengths in the zone of heat waves while others react to those shorter wave lengths closer to the x-ray or gamma wave length. However, most seem to react to the wave lengths 3000 Angström units, the ultraviolet wave lengths, up to those of visible light 5000 Angström units.

Summer Prurigo

This entity closely resembles solar urticaria. However, the urticarial papules tend to become fixed with persistent markedly purpuric papules, particularly over the outer rim of the ear, the cheeks and backs of the hands.

Light sensitivity has in some cases been associated with the familial porphyrin metabolic abnormality in which large amounts of abnormal porphyrins are found in the urine and feces. However, this is usually the case in only a very few of the mutilating forms of hydroa aestivale.

Hydroa Aestivale

This condition shows the most marked of the skin reactions which we have seen so far and is characterized by the development of white edematous macules 1.0 to 2.0 mm. in diameter in the above areas of predisposition. Soon an erythematous halo develops and the center becomes yellowish with edema about it. The center then dries down to form a brownish, dry center about which develops vesiculation to form an umbilicated lesion. The vesicular fluid becomes turbid and sometimes hemorrhagic in character. Superficial lesions heal without scarring. However, some cases show such marked inflammatory reaction that necrosis and resultant scarring may produce loss of portions of the ears and scarring of lips and the dorsa of the hands.

The cause of these photosensitivity reactions is unknown except that solar radiation is the general precipitating factor. Children and young adults are the groups most generally affected. Apparently there are several endocrine and vitamin factors which have some bearing since we have found that in some cases the androgens and in others some factors of the vitamin B complex or the tochopherols will protect the individual.

Treatment

The best treatment in these diseases is preventive, since they recur each spring and persist during the early summer and in some patients during all the bright months. Discomfort is sufficiently severe to keep some of the more sensitive from all outdoor activity.

There are several preparations which have been used successfully to screen out harmful rays. They must be applied before going into the sun at all times. The following prescriptions have been very helpful in our hands.

Perhaps the oldest in general use is some modification of the folowing:

℞ Phenyl Salicylat 6.
Liq. Pet. q.s. to dissolve
Ungt. Aq. Rosea q.s. 60.
M. Sig: Apply before going outdoors

Other effective formulas are as follows:

℞ Para-amino-benzoic acid 9.
Aquaphor " "
aa
Aqua Dest. q.s. 60.

℞ Neutracolor (Almay) 3.
Ungt. Zinc Oxid " "
aa
Lassars Paste q.s. 60.

This last is of the consistency of the powder bases commonly used by ladies and they will use it willingly. There are several proprietary preparations which have given excellent results. A-Fil (Texas Pharmacal Company) and Sunex (Abbott) are two that we have found effective.

For those whose work requires long hours in the sun these protectives are not always sufficient. For these unfortunate individuals, a trial of the vitamin and ketosteroid hormones is next in order. We have had a few patients who have increased their resistance to these hypersensitive reactions by taking large doses of vitamin B complex; a larger group seem to be benefitted by the tochopherols in doses of 100 mgms. three times a day. Dr. Lamb[1] of Oklahoma City has managed to keep many of his ranch patients at work, despite these hypersensitive reactions, by the use of the ketosteroid hormones. Some do well on oral testosterone 10 to 25 mgms. daily by mouth while others are only protected by daily injections of large doses of androgen.

Treatment of the established case is first, removal from the sun; second, cool compresses of Burrow's solution, boric acid or saline, and, after the edema and vesiculation subside, the use of simple emollients such as cold cream or ointment of zinc oxide.

Lasting Effects of Sun Irritation

We come now to the consideration of those effects of solar reaction of the skin which leaves permanent and in many cases very serious effects.

Xeroderma pigmentosum is a familiar skin disease characterized by very early aging of the skin following light exposure. Here in childhood the skin shows the wrinkling, atrophy of the epidermis.

blotchy hyperpigmentation and papular hyperkeratosis that we see in the aged skin of sailors, farmers and ranchers. Squamous cell carcinoma develops at an early age and these patients usually succumb before reaching maturity.

Fortunately, this familial defect of photosensitivity is rare. However, a large part of our population which must work outdoors in wind and sun show many of these changes in later life. The blue eyed, blond and pink-skinned individual who has spent all or most of his life on our farms and ranches will show as he gets older some of these changes. The early changes are seen as dryness of the exposed skin with loss of subcutaneous fat and wrinkling of the skin. This dryness and wrinkling become progressively more severe, and over the vermilion border of the lower lip and upper edge of the pinna of the ear dry scaling develops. Macular areas of hyperpigmentation over the dorsal surfaces of the hands, the cheeks and the ears also are seen. Later on small, horny excrescences develop which peel off and regrow over a period of several months or years. These are the senile keratoses which definitely belong in the group of skin premalignancies. If these senile keratoses are not adequately treated they continue to grow, eventually the skin below them becomes infiltrated with a hard, nodular, pearly infiltrate. This is already a squamous cell carcinoma. Ulceration supervenes in time and the lesion progresses to infiltration of surrounding structures and becomes increasingly more difficult to successfully eradicate.

Treatment of Late Sequelae

Preventive treatment here again is the treatment of choice. The blue eyed, light skinned rancher and farmer should from childhood protect his skin when working outdoors. Broad brimmed hats and sun screening agents should be used. Emollients should be used to soften the dry skin. Senile keratoses should be destroyed when they become hyperkeratotic. Usually electrocoagulation of these under novocaine anesthesia is the method of choice. Surgical excision is also effective; however, over the ears, on the nose, lips and back of the hands it is often difficult to get adequate skin for closure. When any infiltration is detached in the base of these keratoses the lesion should be removed for microscopic study at the time of electrosurgical destruction. In all reasonably early skin cancers the combined method of electrosurgical destruction, biopsy and x-ray therapy has given uniformly good results. Elliott[2] recently reported a series of over 1700 consecutive skin cancers of this type with a five-year cure rate of over 97 per cent.

In those cases in which the carcinoma has invaded deeper structures such as cartilage, bone or muscle the problem becomes much more serious. Here, only wide surgical excision can adequately handle these cases. Our program here should be the adequate handling of these cases when they are easily controlled; thus, keratoses should be coagulated before they become carcinoma, and carcinoma adequately treated by excision or electrosurgical destruction followed by radiation therapy before deep invasion has occurred.

Conclusion

A review of harmful effects of excessive exposure to actinic rays with especial emphasis on preventive methods of treatment has been given in an effort to save many from early and late disease caused by excess exposure to sunlight.

References

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2. Elliott, J., and Welton, D. G.: Epithelioma, Arch. Dermat. and Syph., Vol. 53, No. 4, 307-323.

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The Use of Protein Bound Iodine as a Clinical Tool*

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Once the clinical picture of hyperthyroidism is apparent as displayed with nodular or diffuse goiter, with or without exopthalmus, the diagnosis presents no problem. When thyroid enlargement is marked, however, or when complicating and confusing symptoms are present or when symptoms are minimal, the true clinical evaluation of thyroid activity may become quite difficult.

Much of Kansas and the surrounding areas lie in a goiter belt. In this region, quiescent nodular or diffuse goiter is common. Moreover, these patients frequently have non-thyroid hypermetabolic diseases which cause them to have an elevated BMR and even present certain objective signs of hyperthyroidism. This group of individuals frequently receives extensive courses of medical therapy or even surgery without further investigation of their hypermetabolism. The diagnostician is put to test as to how to correctly evaluate the patient with a functionally normal goiter who presents with symptoms arising from menopause, anxiety states, hypertension, cardiac failure or hyperplastic neoplastic diseases.

In addition, the diagnosis of border-line hyperthyroidism or hypothyroidism presents much difficulty because there are no routine clinical procedures available which test only thyroid activity. The basal metabolic rate is a measure of oxygen consumption, the end result of many oxidative processes in the body, and is not necessarily related to the production, transportation and utilization of the thyroid hormone. The problem of obtaining true basal states in the patient short of hypnosis frequently negates an otherwise helpful test. Determination of serum or plasma cholesterol reflects the degree of thyroid activity in the metabolism of fats and steroids. This procedure is fraught with many errors. For accuracy, one must assume normal ingestion and absorption of the fat. The functional status of the liver is intimately related to the utilization of cholesterol, quite independently of the thyroid hormone.

Since the thyroid gland is so closely related to the metabolism of iodine, numerous studies in an attempt to correlate the amount of iodine in blood with the various objective signs of thyroid activity have been made. There is ample evidence to show that circulating protein bound iodine represents the metabolically active hormone elaborated by the thyroid gland.[1, 3]

The chemical determination of iodine in any of the blood fractions, as suggested in the literature, is difficult technically and requires expensive equipment and materials. This fact stimulated some investigation into more readily adaptable methods. We believe that a simpler method than the standard techniques now used can be offered.

Briefly, the tests suggested to date take the blood sample and fractionate it into protein and protein free portions. The desired fraction is then subjected to some potent oxidative process, generally fusion with sodium hydroxide in a blast furnace. The fusate is later oxidized in a manner not dissimilar to the standard Kjeldahl procedure. The oxidized material is then washed, trapped in various halogen binding solutions, and reduced to free iodine and titrated. Loss of the iodine in various transferring and open destruction procedures, frequently led to errors in the determinations. The fact that iodine is present in minute quantities made necessary use of large original specimens and made duplicate analysis impractical. This paper describes two methods for determining the amount of circulating protein bound

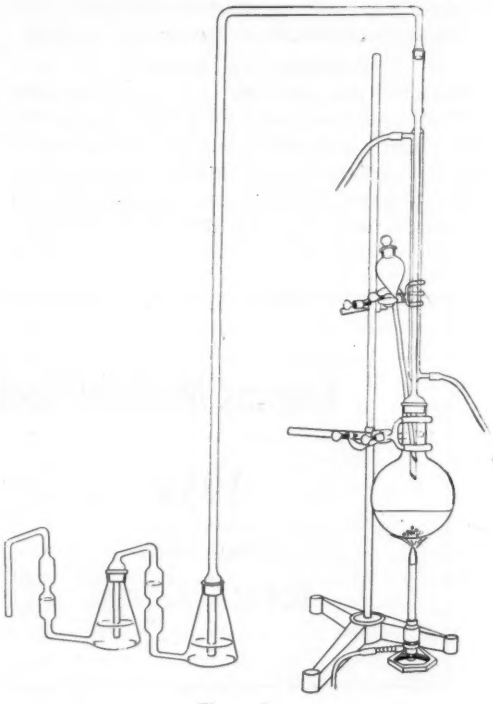

Figure I

* Supported in part by USPH Grant H 695 (F1698)

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iodine. The first method is designed for use in any laboratory, the latter requires expensive equipment and highly skilled technical assistance.

An entirely closed technique for release and binding of the iodine has been developed in the laboratories at the Medical Center. A three-piece, all glass apparatus was made from standard glass stock (see Figure I). It is important that all joints be of ground glass. All equipment used is kept in a chromic acid, sulphuric acid cleaning solution until just before use, at which time it is rinsed and quickly assembled. These precautions are necessary because iodine, being volatile, is ever present in the laboratory air and has a great affinity for glass surfaces.

We use a 25 cc. sample and precipitate the proteins with five per cent trichloroacetic acid. The precipitate is placed in the round bottom oxidizing flask and an oxidizing solution of chromium trioxide and sulphuric acid is added. No oxidation takes place in this superconcentrated solution until oxygen, in the form of water, is supplied, so loss of the unknown does not occur. The flask is sealed in the apparatus, water added cautiously via the separatory funnel at the top and oxidation carried out, adding heat to maintain a briskly boiling solution. Oxidized iodine is carried over in a water vapor, condensed and trapped in a binding solution of sulfurous acid. Mixture with the binding solution is achieved by bubbling through the modified Erlenmeyer flask at the left. Oxidation is completed when the billowy white fumes of sulphur dioxide appear in the binding flask. The trapped iodine is then converted to iodic acid and then to iodate and adsorbed on starch granules. The resulting suspension is titrated with sodium thiosulfate. A similar technique is carried out upon the protein free portion of the blood sample to determine inorganic iodine.

It is believed that this technique could be set up in any moderately equipped laboratory. It does not require expensive apparatus, and reproducible results with a margin of error of plus or minus three per cent were readily achieved by several previously unskilled technicians. The test does demand attention frequently during a three-hour period and fastidious care in cleaning apparatus is important. A blank determination is obviously essential.

We have come to regard any person presenting with a protein bound iodine between three and 10 micrograms per 100 cc. as having normal thyroid activity. Any person with higher levels has a hyperfunctioning thyroid gland and any below three has a depressed activity. Patients who have recently ingested iodine containing foods or medicinals occasionally show elevated protein bound iodines but have normal protein bound iodines when the protein precipitate is redissolved in dilute NaOH and then reprecipitated with trichloroacetic acid. These same persons always have very high inorganic iodine values and it is assumed that the elevated protein

TABLE I

Diagnosis	*BMR*	*Cholesterol (Mg%)*	*Protein Bound Iodine*
No disease or complaint	Plus 5	185	4.6
" " "	Plus 8	163	6.3
" " "	Plus 3	210	4.8
" " "	Minus 3	196	8.2
" " "	Plus 2	161	6.9
" " "	Plus 8	200	6.3
" " "	Plus 7	185	4.0
" " "	Plus 7	173	5.8
" " "	Plus 6	189	4.3
" " "	Minus 4	203	6.1
" " "	Plus 1	195	5.5
" " "	Minus 2	175	5.9
" " "	Minus 3	196	8.9
" " "	Plus 6	206	10.3
" " "	Plus 3	211	6.4
Toxic nodular goiter	Plus 22	111	15.2
" " "	Plus 18	131	18.3
" " "	Plus 15	180	20.1
" " "	Plus 34	153	30.6
" " "	Plus 28	116	28.4
" " "	Plus 20	143	19.4
Toxic diffuse goiter	Plus 23	108	22.8
" " "	Plus 48	83	34.6
" " "	Plus 30	122	21.2
Hyperthyroidism with no gland change (Palp)	Plus 38	114	28.2
" " "	Plus 28	93	19.2
Hyperplasia thyroid, no symptoms	Plus 8	147	8.2
Benign adenoma of thyroid	Plus 4	163	4.8
" " " "	Plus 6	182	6.4
" " " "	Plus 3	162	5.3
" " " "	Minus 2	181	4.5
" " " "	Minus 3	159	4.5
Benign fetal adenoma	Plus 2	169	6.9
" " "	Minus 8	182	5.3
Hypothyroidism	Minus 11	283	0.8
" "	Minus 23	280	1.1
" "	Minus 7	310	0.9
" "	Minus 13	180	1.3
" "	Minus 18	235	0.2
Creatinism	Minus 27	385	0.4

TABLE II

Diagnosis	*BMR*	*Cholesterol (Mg%)*	*Protein Bound Iodine*
Chronic cholecystitis	8	243	4.3
" "	6	245	6.2
" "	9	183	5.3
Acute cholecystitis	25	143	7.0
Chronic cholecystitis with neurosia	27	142	6.2
Carcinoma of gallbladder	9	161	5.8
Carcinoma of liver	11	203	4.9
Cirrhosis with ascites	Minus 5	265	6.7
" " "	Minus 7	318	5.7
Carcinoma of stomach	4	175	5.9
Chronic pancreatitis	7	193	7.1
Carcinoma of breast	2	169	4.1
Uterine fibroid	9	270	6.1
Epigastric hernia and anxiety	26	173	7.9
Hemorrhoidectomy	17	162	6.5
Lymphatic leukemia	37	149	5.3
Hodgkins disease	23	210	5.9
Multiple myeloma	59	197	4.6

iodine is an adsorption phenomena unrelated to the iodine of the circulating thyroid hormone.

Tables I and II are a series of cases evaluated by the chemical estimation of protein bound iodine. It is apparent in the study of these tables, that the protein bound iodine values parallel the clinical diagnosis without fail and, in cases of hyperthyroidism, the pathological diagnosis. Table II is of special interest in showing two patients with cirrhosis of the liver who clinically seemed hypothyroid and their BMR and cholesterol studies would verify that impression. Their protein bound iodines were normal, their depressed general metabolism being a reflection of the liver disease. The three patients with hyperplastic lymphomatous diseases appeared to be hyperthyroid and again their BMR would have borne that contention out. Their protein bound iodine was normal, their hypermetabolism being an effect of their neoplastic disease.

A second technique has been established at the Medical Center. To check the methods, the two tests are being carried out simultaneously and without fail have compared favorably.

Radioactive iodine is being employed by many investigators today in both diagnosis and treatment of abnormal thyroid states. Two general methods, urinary excretion and thyroid uptake, have been used to follow the fate of an administered tracer dose of radioactive iodine. Extensive studies on the rate of excretion of radio iodine in cases of hyper and hypothyroidism and in persons with normal thyroid activity have been made in many clinics.

While the urinary excretion method has the advantage of a degree of simplicity, the assumption that all unexcreted radio iodine remains in the thyroid gland is open to question. Poor correlation has been reported by Quimby and McCune[4] between the values for thyroid uptake as measured directly over the gland and calculated from the urine. Hamilton and Soley[5] and Hertz and Salter[6] were not able to correlate the total radio iodine by combining the content of thyroids removed totally at surgery and the radio iodine excreted in the urine. Still further disadvantages are the wide range of excretion in urine and the great difficulty in getting accurate urine specimens from the patient.

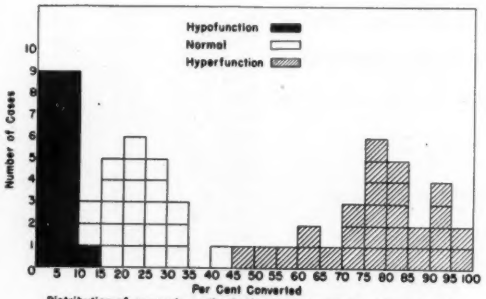
One final disadvantage in relying upon the urinary excretion of radio iodine in the diagnosis of thyroid abnormality is the wide overlapping of data in normal and hypo and hyperthyroid individuals.

The technique described again measures the circulating protein bound iodine. It consists of orally administering 0.3 millicuries (Oak Ridge Standard) in the form of carrier free potassium iodide to patients with apparently low or normal thyroid function. In patients with apparent hyper-functioning thyroids 0.5-0.8 millicuries were given to assure that the gradient of conversion would not be 100 per cent. The patients were studied as out-patients, no alteration in their activities being required. It follows that to study adequately normal status of thyroid activity for the patient under observation, all attempts to alter the function, with iodine or thiouracil derivatives, are to be avoided. We have found that two weeks without therapy is essential for accurate evaluation.

Twenty-four hours following the administration of the radio iodine, blood was obtained, 15 cc. being placed in five drops of heparin. The plasma was separated by centrifugation. The total plasma I^{131} was determined by pipetting one cc. of plasma into a small capsule (lid from ointment jar) and adding one cc. of a diluting solution containing 0.02 M NaOH; 0.0015 M KI and 0.005 M $NaHSO_3$. One drop of one mg. per cc. of $AgNO_3$ was added. The capsule was gently agitated and dried in a hood under an infra red lamp. Great care was taken that the dried residue had an equal distribution on the bottom of the capsule. The radioactivity was then determined with a Geiger-Muller counter. The activity of the plasma proteins was determined concurrently and by measuring radioactivity in the same way. The proteins were precipitated from a second one cc. sample of plasma with four cc. of 10 per cent trichloroacetic acid and washed with the acetic acid solution. The precipitate was then dissolved by two cc. of water containing seven drops of 2N NaOH and transferred to a capsule. Again one drop $AgNO_3$ was added and the residue dried under the same infra red lamp. Self absorption of radio iodine by the inorganic radio iodine has been found to be negligible when one cc. plasma is used with small amounts of NaOH.

The results of the determination were expressed as the ratio of radioactivity in counts per second in

Table III


Hypofunction
Normal
Hyperfunction
Number of Cases
0 1 2 3 4 5 6 7 8 9 10
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
Per Cent Converted

Distribution of conversion ratios in hypothyroid, normal, and hyperthyroid patients. (Based on ultimate clinical diagnosis.)

the protein fraction and in the total plasma fraction. This is determined as the conversion ratio and is read as per cent of I^{131} converted.

Conversion ratio

$$\frac{\text{Protein Bound } I^{131} \text{ in counts per second}}{\text{Total Plasma } I^{131} \text{ in counts per second}} \text{ times } 100$$

In the cases studied, the conversion ratio was studied as soon after the BMR as possible and concurrently with the chemically determined blood iodine and cholesterol. Every case had received clinical evaluation by at least one service and had received a clinical diagnosis. A pertinent part of the history related to previous medication or laboratory studies using iodized agents.

Table III shows graphically the conversion ratios in various thyroid states. Patients converting from 10-50 per cent of inorganic I^{131} to protein bound iodine are considered to have normal thyroid activity. Those converting less than 10 per cent are hypothyroid and those converting over 50 per cent are hyperthyroid.

Tables IV to VII show a series of patients in which both protein bound iodine and radio iodine conversion studies were performed in addition to clinical evaluation, BMR and cholesterol.

Table IV lists patients with normal thyroid activity as shown clinically as well as by normal protein bound iodine and radio iodine conversion ratios. In several instances the BMR and the clinical impressions were contradictory as shown. Table V shows 21 hyperthyroid individuals and without fail showed high conversion of radio iodine. One patient showed a normal protein bound iodine and two had very high values. These later two were per-

TABLE IV

Diagnosis	*BMR*	*Cholesterol (Mg%)*	*Protein Bound Iodine (Mg%)*	*Conversion Ratio (in %)*
Carcinoma of cervix	Plus 3	185	5.2	21
Incisional hernia	Plus 12	176	5.4	29
Melanosarcoma	0	183	6.1	15
Fetal adenoma of thyroid, chronic duodenal ulcer	Minus 7	210	4.3	32
Hemorrhoids, anxiety symptoms	Plus 15	218	5.3	24
Carcinoma of thyroid, sub-total thyroidectomy	Plus 10	185	6.1	16.6
Uterine fibroids, transection of cord at L-2	0	193	3.2	30
Carcinoma of thyroid	Minus 10	164	4.3	21
Intestinal obstruction	0	223	3.5	28.2
Gastric ulcer	Minus 1	195	5.5	42
Carcinoma of pancreas	0	203	6.1	33.7
Biliary fistula	Minus 14	159	6.9	21
Carcinoma of breast	Minus 16	165	5.9	23.8
Ulcerative colitis	Plus 12	163	3.2	35
Malignant exophthalmus, no signs of thyrotoxicosis	Minus 1	210	5.5	24
No organic disease	Minus 23	218	5.1	26
Adenoma of thyroid, benign	Minus 2	220	6.4	17
Functional bowel distress	Plus 12	165	6.1	17
Cyst of kidney	Plus 3	173	7.1	18.5
Inguinal hernia	0	163	9.5	13
Appendicitis	Minus 13	195	7.4	27.3
Adenoma of thyroid, benign	Minus 11	183	3.1	13.3

TABLE V

Diagnosis	*BMR*	*Cholesterol (Mg%)*	*Protein Bound Iodine (Mg%)*	*Conversion Ratio (in %)*
Hyperthyroidism-diffuse	Plus 17	116	26.1	45
" "	Plus 21	127	21.0	53
" "	Plus 25	175	13.1	59
" -nodular	Plus 23	108	27.2	61
" -diffuse	Plus 19	82	18.1	65
" "	Plus 39	129	30.1	68
" -nodular	Plus 42	99	22.7	71
" -diffuse	Plus 35	163	27.2	74
" "	Plus 42	145	19.8	75
" "	Plus 45	143	21.8	76
" "	Plus 15	179	15.1	77
" -nodular	Plus 45	126	31.8	78
" "	Plus 26	137	26.0	78.9
" -diffuse	Plus 39	114	32.7	79
" "	Plus 42	129	31.7	80
" "	Plus 8	143	20.6	81
" "	Plus 39	155	20.9	81
" "	Plus 30	173	60.1	82
" -nodular	Plus 49	117	57.1	91.5
" -diffuse	Plus 30	123	7.1	95
" -nodular	Plus 64	133	32.1	96

TABLE VI

Diagnosis	*BMR*	*Cholesterol (Mg%)*	*Protein Bound Iodine (Mg%)*	*Conversion Ratio (in %)*
Carcinoma of thyroid, total thyroidectomy	Minus 25	280	0.2	3.5
Myxedema	Minus 40	230	0.8	5.0
Carcinoma of thyroid, myxedema	Minus 40	720	1.8	5.0
Carcinoma of thyroid	Minus 6	185	1.3	2.7
Carcinoma of thyroid, myxedema	Minus 35	282	1.9	12.5
Carcinoma of thyroid	Minus 13	118	0.9	7.0
Carcinoma of thyroid, myxedema	Minus 13	218	2.3	4.0
Hurthle cell, carcinoma myxedema	Minus 38	280	2.1	6.1
Carcinoma of thyroid	Minus 4	210	3.0	5.0
" "	Minus 20	210	0.7	7.1
Myxedema	Minus 30	255	0.9	3.0
Hypothyroidism, pernicious anemia	Minus 21	265	1.9	7.0
Myxedema	Minus 23	210	1.4	7.0
Creatinism	Minus 9	295	2.4	6.8
Myxedema	Minus 37	300	0.3	7.0
Post-thyroidectomy, hypothyroidism	Minus 30	185	0.9	3.3
Craniopharyngioma	Minus 39	318	0.4	8.8
Hypothyroidectomy, anxiety state	Minus 19	264	0.7	4.0
Myxedema, mild	Minus 18	227	2.2	9.0

TABLE VII

Diagnosis	*BMR*	*Cholesterol (Mg%)*	*Protein Bound Iodine (Mg%)*	*Conversion Ratio (in %)*
Auricular fibrillation with myocardial defect, diabetes mellitus	Plus 23	183	4.3	7.0
Hypertensive cardiovascular disease, mild decompensation	Plus 14	210	9.1	6.2
Hypertensive cardiovascular disease, severe decompensation, nodular goiter	Plus 36	113	2.9	1.5
Mild cardiac failure	Plus 11	225	5.3	5.0
Hypertensive cardiovascular disease, diabetes mellitus	Plus 24	213	2.1	8.4
Hypertensive cardiovascular disease	Plus 28	195	7.1	8.0
Hypertensive cardiovascular disease with moderate decompensation	Plus 31	165	5.5	6.4
Essential hypertension, previous incomplete sympathectomy	Plus 31	280	23.1	36
Essential hypertension, no cardiac disease	Plus 22	194	10.1	23.8

formed before realization of a possible inorganic iodine adsorbing phenomena. Table VI shows a group of hypothyroid individuals, many of them secondary to total thyroidectomies for carcinoma of the thyroid. In each case the protein bound iodine and the radio iodine conversion are in the hypothyroid range. The last table shows a group of hypertensive and cardiac individuals. Variation in results here is wider, but the trend shows no evidence of thyroid overactivity in these patients who presented a clinical picture like hyperthyroidism.

In summary, two procedures to assess the degree of thyroid activity are presented. The chemical determination of the protein bound iodine is technically feasible and reproductive of results that concur accurately with thyroid activity. Measuring the degree of conversion of radio iodine to circulating thyroid hormone is technically simpler, less expensive in a properly equipped laboratory, and reproducible with the same degree of accuracy. Development of the chemical determination of protein bound iodine was undertaken to offer the general clinical laboratories a satisfactory method free from the requirements and potential hazards of radio iodine. Neither procedure is harmful to the patient nor does it restrict his activities. Both tests are ideally suited to follow the effect of various therapeutic procedures.

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NEW A.M.A. DIRECTORY

A copy of the A.M.A. directory for 1950, the first published since 1942, has been received at the Executive Office. Information from the directory will be supplied upon request. Physicians interested in securing their own copies, at $25 each, may order them from

Mr. A. W. Stack
Fellowship, Membership and Subscription Department
American Medical Association
535 North Dearborn Street
Chicago 10, Illinois

The Surgical Treatment of Patent Ductus Arteriosus

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Wichita, Kansas

Introduction: In fetal life the blood circulating in the embryo must bypass the pulmonary vascular bed. This function is fulfilled by the patent ductus arteriosus. After the child is born, this shunt action of the ductus is no longer desirable. According to Christie,[1] most ducti close within the first three months and 99 per cent are closed within the first year.

In the event that the ductus arteriosus does not close, the child has, in effect, an arteriovenous shunt or fistula. The flow of blood is from aorta to the pulmonary artery as the higher pressure is in the aorta. This is the reverse of the situation in utero.

The disability encumbered depends in large measure upon two factors: (1) the size of the ductus, and (2) the presence of infection.

In consideration of the ductus size, it is obvious that if the opening is small, no disability may be apparent. Only the characteristic machinery murmur will remain to warn the clinician of the abnormality. If the defect is large, the child will not develop as quickly as other comparable children of the same age. As the child grows older, the heart will work harder to maintain the peripheral circulation, will dilate, and eventually go into failure.

The most common infection is that due to the Streptococcus viridans. Gross[2] feels that this infection is found in 25 per cent of the patients who live into adult years with a patent ductus arteriosus.

It is now a well known fact that a patient who suffers from subacute bacterial endocarditis and an associated patent ductus arteriosus, will undergo an almost immediate cure following closure of the patent ductus. We must realize that antibiotics have played an important role in the recovery of these patients.

In 1938 Gross[3] performed the first successful closure of a patent ductus. In 1946 Blalock[4] described a method of multiple suture ligation for closure of the defect. In the above interval many methods of closure and many different types of ligatures were employed.

Diagnosis: Children are little handicapped by this abnormality. The diagnosis is often made by an astute practitioner on routine examination. It is not until adult, or near adult life, that these individuals begin to undergo the stress and strain incident to their arteriovenous shunt. Early fatigue and dyspnea are often noted. The occasional patient presents in acute heart failure. Should subacute bacterial endocarditis be superimposed, the classic signs of a blood stream infection become manifest: fever, sweating, weight loss, anorexia, petechiae, and ecchymoses.

Cyanosis is not a feature of this abnormality. If cyanosis is present, the patient either does not have a patent ductus arteriosus, or has a patent ductus and some other anomaly in addition, such as the tetralogy of Fallot.

The characteristic machinery murmur over the pulmonic area is the most dramatic finding upon physical examination.

If the pulse pressure is high, the capillary pulsations may be seen in the nailbeds or beneath a glass slide held against the mucous membrane of the lower lip.

The roentgenogram of the chest usually reveals a slight enlargement of the heart and an enlarged pulmonary conus. Following surgery the heart decreases in size and assumes a normal contour in the majority of the patients.

Differential Diagnosis: The differential diagnosis may be made in the majority of the patients with the stethoscope alone. However, all machinery murmurs are not necessarily operable patent ducti. If there is a history of cyanosis in a child or young adult, one must be wary. In young children an interventricular or even an interauricular septal defect may simulate a patent ductus. Coarctation of the aorta often has an associated ductus arteriosus.

Should a patient have attacks of cyanosis and signs of what is thought to be a patent ductus, the ductus should not be closed. In such a patient it is likely that the ductus arteriosus is the one anomaly that keeps the patient alive. One might say that nature has already done the Blalock-Taussig operation.

Case Report

Mrs. S., 20741, was first seen at the age of 22 years, at which time she was two months pregnant. She stated that she had had a tonsillectomy at the age of eight years. As a child and young adult, she had noted that she tired easily and was unable to swim or run to the same extent as her contemporaries. A pediatrician had stated, when she was four years of age, that she had a congenital heart lesion.

Upon physical examination a typical machinery murmur was heard. There was no cyanosis and the blood pressure was 126/70.

The roentgenogram showed an enlarged pul-

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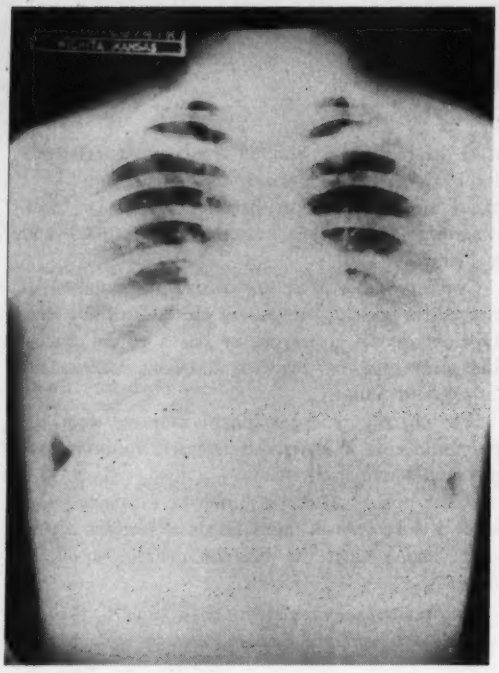

Figure 1

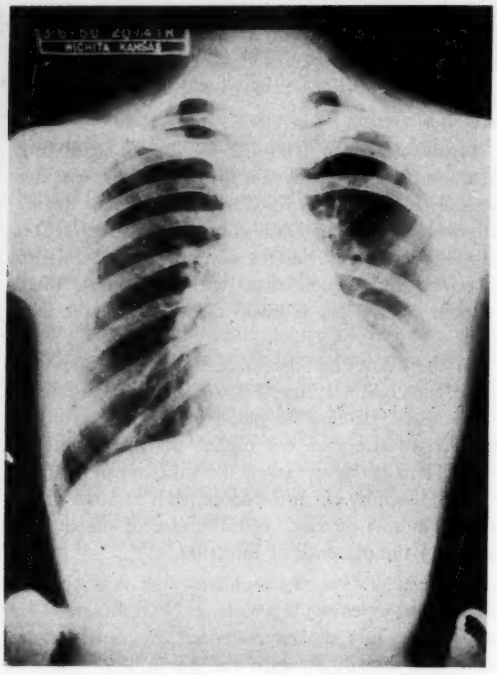

Figure 2

monary conus (Figure 1). The electrocardiogram showed early right heart strain.

She delivered spontaneously on August 9, 1949. She suffered no cardiac failure either ante- or postpartum.

On January 21, 1950, a short ductus arteriosus was doubly ligated and transfixed. The patient made an uneventful recovery and left the hospital on January 30, 1950. Her heart has reduced in size since surgery, and the pulmonary conus has taken on a normal configuration (Figure 2). She was allowed to return to full unrestricted activity on March 7, 1950.

Prognosis: Keyes and Shapiro[6] have stated that a patient suffering from a patent ductus arteriosus, alive at the age of 17, has half the life expectancy of the population as a whole; hence, these children and adults can look forward to a lifetime of approximately 32 or 33 years.

Method of Closure: Gross[3] first used simple ligation. He later developed a technique for complete division and suture of the ductus.

Blalock[4] developed a suture ligation technique in 1946. Gross felt that recanalization would occur if the ductus were not transected completely. In a recent publication Scott[5] has reported upon 180 patients who have had their ducti closed by the suture ligation technique. In this group there were five deaths and one instance of recanalization. A simple ligation was thought to be the reason for the one instance of failure.

Certainly the suture ligation technique is simpler and easier to do. It is not attended by an incidence of recanalization greater than one per cent. In many hands, it is the procedure of choice.

Conclusion

1. Surgical closure of a patent ductus arteriosus is a relatively safe procedure which should be offered to children and young adults in relatively good physical condition and not in cardiac failure.

2. The incidence of recanalization is less than one per cent when the suture ligation technique is used.

3. Closure of a patent ductus arteriosus should be done even in the presence of a positive blood culture unless the patient is in cardiac failure.

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The Care of Hand Injuries*

Fractures and Dislocations

I *Protection of the Hand* (Abstract of Article I)

The first-aid care of wounds of the hand is directed fundamentally at protection. It should provide protection from infection, from added injury, and from future disability and deformity. The best first-aid management consists in the application of a sterile protective dressing, a firm compression bandage and immobilization by splinting in the position of function.** No attempt should be made to examine, cleanse or treat the wound until operating room facilities are available.

II *Requirements of Early Definitive Treatment* (Abstract of Article II)

Early definitive care requires thorough evaluation of function by directed active motion. occurrence, status as regards infection, nature of first-aid treatment and appraisal of structural damage. For undertaking definitive treatment, the conditions required are a well-equipped operating room, good lighting, adequate instruments, sufficient assistance, complete anesthesia and a bloodless field. Treatment itself consists of aseptic cleansing of the wound, removal of devitalized tissue and foreign material (exercising strict conservation of all viable tissue), complete hemostasis, the repair of injured structures, protecting nerves, bones and tendons and providing maximum skin coverage and the application of firm protective dressing to maintain the optimum position. After-treatment consists of protection, rest and elevation during healing, and early restoration of function by directed active motion.

III *Surface Injuries* (Previously described)

IV *Lacerated Wounds* (Previously described)

V *Fractures and Dislocations*

The purposes of treatment of closed fractures and dislocations of the bones of the hand are:

1. Protection of the injured bony structures from further displacement and avoidance of added damage to soft parts.
2. Restoration of normal relations of the bony structures.
3. Maintenance of the corrected relation of the bones to permit healing, at the same time avoiding stiffening in position of nonfunction.
4. Restoration of function.

These objectives are sought in the various stages of treatment.

1. First-aid treatment
   - A. Avoid manipulation or attempts at reduction until skilled attention is available and accurate diagnosis has been made.
   - B. Prompt protection of the hand by complete immobilization in the position of function pending definitive treatment.
2. Definitive treatment.

   When proper skill and facilities are available, this consists of:
   - A. Diagnosis by means of
     - 1—Inspection to determine swelling, ecchymosis, deformity, loss of function.
     - 2—Palpation, gently employed, to discover bony irregularity, point of maximum tenderness, referred pain. This sign is of importance in discovering fractures of the long bones, particularly where deformity may not exist or is concealed by swelling. Gentle pressure in the line of axis of the long bone will result in pain at the fracture site.
     - 3—X-ray examination. Obligatory where fracture or dislocation is suspected. Injuries in the region of the carpus require not only antero-posterior and lateral views but two or more oblique views in addition. Fractures of the carpal bones frequently fail to show in antero-posterior and lateral views.
   - B. Reduction. Restoration of normal position of bony structures should be secured at the earliest possible time by:

     1—Manipulation.

     Whether reducing a fracture or a dislocation, full relaxation, preferably under general anesthesia, is desirable. Manual traction, pressure and mouling should be gentle and deliberate to avoid further soft-part injury.

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* Note: This is the fifth of a series of articles on "The Care of Hand Injuries." This material is prepared by the American Society for Surgery of the Hand and is distributed by the Committee on Trauma, American College of Surgeons, through its regional committees.

** Position of function or position of grasp: wrist hyperextended in cock-up position, fingers in mid-flexion and separated, thumb abducted, slightly forward from hand and slightly flexed.

When attempts at reduction by manipulation are not promptly successful under these conditions, they should be abandoned in favor of (operative) replacement. Dislocation at the metacarpophalangeal joint of the thumb will almost invariably require open reduction.

2—Skeletal control.

To maintain reduction, particularly of oblique or comminuted fractures of phalanges or metacarpals or fractures into joints, control by skeletal fixation may be required. This may be applied by means of a length of thin Kirschner wire inserted tranversely through the distal end of the fractured bone or through the terminal phalanx of the finger. The hand and injured finger or fingers should be supported in the position of function on a palmar moulded curved form or ball splint. This alone will ordinarily suffice to maintain proper position after reduction by manipulation. When control by skeletal fixation is required for maintenance of reduction, the transfixing wire may be connected to this splint on its palmar aspect or to a projecting frame, at or above wrist level, by elastic bands. Fixation or traction by means of a hole in the finger nail, or by adhesive applied to the finger, or by woven constricting device is not satisfactory. Continued straight traction on the fingers in the extended position is to be avoided.

3—Open reduction.

When manipulation fails to produce satisfactory reduction, open operative reduction is to be employed. This requires careful preliminary skin preparation and should be carried out under optimum operating conditions as described in II (Requirements of Early Definitive Treatment).

3. Maintenance of reduction.

Immobilization of bony injury following reduction should:

(a) Be secured with firm, even pressure bandaging, permitting no motion at site of injury.

(b) Be nonconstricting, not interfering with circulation.

(c) Be comfortable, causing no excess pressure.

(d) Preserve, as far as possible, the position of function, taking into account the normal concavities of the palmar surface of the skeletal structure (arches of the hand) and flexor surface curves of the phalanges. (Wrist in 30° dosiflexion, metacarpophalangeal and distal interphalangeal joints in 45° flexion and middle interphalangeal joint in 90° flexion.) Flat splinting is to be condemned.

(e) Leave free to move all joints whose motion will not jeopardize position and healing. During immobilization, active motion of all joints not necessarily confined is to be encouraged.

Immobilization may be acomplished by:

(1) Splinting or plaster casting, applied as described in 2 B Reduction.

(2) Internal fixation. Kirschner wires may be employed, following either open or closed reduction, as axial intramedullary splints for individual long bones (not to protrude into a joint); as transversely introduced fixation pins passing through adjacent bones to secure the fragments of metacarpal fractures; as penetrating fixation for fragments of carpal fractures.

Wiring or plating of fractures of the bones of the hand is generally satisfactory.

During the early period of immobilization, elevation of the hand is desirable. Immobilization of the injury should be consistent and continuous until healing and firm union have been established.

Healing of ligamentous injuries accompanying dislocations requires two weeks of immobilization following reduction.

Healing of fractures of the long bones requires immobilization for three to five weeks.

Healing of carpal bone fractures requires 12 to 14 weeks' immobilization. Fractures of the navicular may require four months to unite. If immobilized consistently for this length of time, most of these fractures will not require surgical intervention.

4. Restoration of function.

During the healing process, all joints not necessarily immobilized should be freely moved to activate their controlling muscles

and their use by the patient encouraged.

Following establishment of healing or firm union, restoration of function is secured by directed active motion, particularly through the means of exercise and occupational therapy.

SOCIALIZED MEDICINE

Editor's Note. This is the eleventh of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.

Government Spending

The Council of State Chambers of Commerce in Washington, D. C., has prepared some interesting facts on government spending. Many of these arise out of the Hoover Report and others come from the Byrd Committee on Reduction of Nonessential Federal Expenditures. A few examples are listed below which the physician who is preparing a paper on socialized medicine might use to show the inefficiency of current government operations. It appears logical that government operation of a socialized medicine program would not be conducted at a higher level of efficiency than is the case in other forms of federal activities.

The Byrd Committee found more than 900 instances of duplication and overlapping among the 1,100-odd bureaus, agencies and departments of the government. For instance, it found 37 agencies carrying on activities in public health, 22 in housing, 27 in labor relations, 64 in business relations, 37 in foreign aid, 24 in rehabilitation, 16 in water power and power, 24 in mapmaking, 21 in transportation, 16 in education, and so on.

There are 61 separate government printing and duplicating plants in Washington, 23 in San Francisco, 25 in Philadelphia, 16 in Chicago, 16 in New York, six in Kansas City, six in Denver, and so on.

In contrast to well managed business concerns employing one personnel officer to every 200 or 250 employees, the government employs one to every 78 employees, and in some departments the ratio is as low as one to 38.

A House Appropriations Committee survey disclosed that it takes as many as 35 separate steps to "process" a routine letter received by the State Department. A tracer put on one such letter revealed that the letter landed on 21 different desks in three different buildings and traveled through each building twice.

The Hoover Commission, in its study of government purchasing, reported that half of the three million purchase orders by federal civilian agencies alone (this excludes the armed services) in a typical year are for purchases amounting to $10 or less—and it costs the government more than $10 to perform the paper work alone on each of these orders. For example, the salary cost of putting through a purchase order by one agency in 1948 was $13.30 if the supplies were purchased from stocks of the Federal Bureau of Supply and $23.27 if the supplies had to be purchased by the Bureau of Supply for direct delivery to the agency.

The federal government owns three and six-tenths typewriters for every federal employee who uses one either on full-time or part of the time.

The Interior Department has published, at a total cost of $61,242, a 23-volume series on the Columbia River Basin. The printing cost, per set, was $36.06, but the publications were put on sale for $6.90 per set. Many were distributed free of charge.

The volume of federal records has grown from approximately four million cubic feet in 1932 to 18.5 million in 1948. These records occupy 18 million square feet of space, equivalent to six Pentagon buildings, and their maintenance costs $1.2 billion a year.

The Hoover Commission reports that on June 30, 1948, there were 155,000 patients in federal hospitals having a capacity of 255,000 beds. The Veterans Administration has contracted for additional hospitals of 15,000 beds and is planning for 23,000 more.

The Veterans Administration Insurance Service on June 30, 1948, had one employee for every 450 policies. A large commercial company issuing the same type of policies averaged one employee for every 1,762 policies. Two other companies have work-loads of about 1,700 policies per employee. The average time taken to process death claims in the VA was 80 days, while private insurance companies pay from 71 to 82 per cent of their death claims in 15 days.

The poor showing of VA insurance operations is partly explained by the fact that central office control of branch office activities is effected through 88 different manuals, 33 pamphlets, 665 technical bulletins, and 400 circulars. The Procedures Manual consists of 1,101 pages and is used in conjunction with 77 bulletins to direct the use of more than 900 forms.

A survey of field services disclosed that the government has 383 field offices plus a printing plant in Atlanta, Georgia, and offices in 61 different locations in Cleveland, Ohio. The Treasury Department alone has 14 different offices in Cleveland and the Department of Agriculture has 12 offices in that city.

PRESIDENT'S PAGE

Dear Doctor:

This article is written in the midst of the A.M.A. convention at San Francisco. It is apparent here that our profession is very much on the offensive in several respects.

First, we are on the offense as far as treatment of disease is concerned. Our first duty is to the sick, and we hear and see new treatments for various illnesses. Atomic energy, radiation as a cause and also a treatment of disease, new and improved methods of diagnosis are subjects we see and hear constantly.

Second, we are on the offensive in supplying doctors to the nation, not only in the numbers needed but in the locations where they are needed, and the percentage increase in our profession is far ahead of that in our population.

Third, we are on the offensive in rescuing America from the trend toward national socialism. Our new president, Dr. Elmer L. Henderson of Louisville, gave a courageous and timely message to the people of our nation in his inaugural address and I quote him in part, "Men of little faith propose to place all our people—doctors and patients alike—under a shabby, government dictated medical system which they call compulsory health insurance. This is socialized medicine. It is not socialized medicine which they seek—that is only their first goal. Their real objective is to gain control over all fields of human endeavor and to strip the American people of self determination and self government."

We can all be proud of the part that the Kansas Medical Society has played and is playing in Medicine on the Offense.

Sincerely,

F. R. Crosson M.D.

President.

EDITORIAL COMMENT

Statistics in Medical Literature

Considering the wide use of statistical data in medical literature it appears that more time might be spent during the physician's education in the preparation and evaluation of statistical material. This knowledge would be equally helpful to the writer as well as the reader of scientific papers. An excellent article on this subject appears in the May 24, 1950 issue of Staff Meetings of the Mayo Clinic under the title of "Calculation of Survival Rates for Cancer." While this discussion treats the specialized subject indicated in its title, it has a much broader practical application and is recommended on that basis.

The authors suggest that much statistical material in the medical literature is erroneous. The five-year survival rate for cancer varies as to the group that is included in the figures. It may consist of patients who have been diagnosed to have a malignant lesion, or those who have undergone operation, or only those who have survived operation.

Tables showing survival rates may be presented in one of two ways, the first of which is the direct method. Here data cards are counted and segregated according to information. If a five-year survival rate is desired, the basis must be those patients who have been exposed to the risk of survival for five years. Those who were operated within the five-year period must be excluded because it is not known that they can survive throughout the period. For example, if the series consists of 500 patients, 100 of whom were operated within the five-year period, they should be excluded and only that percentage of 400 who were living at the close of five years can be counted.

Next is the problem of untraced persons. Several possibilities are open, but the least hazardous is to eliminate them entirely. The figure thus reduced then becomes the basis on which this result may be obtained. For a 10-year survival rate the author must first obtain the number of patients who have been exposed to the risk of surviving 10 years.

The other approach is by the actuarial method. This is often easier to obtain, and, surprisingly, it is generally more accurate. Especially will this be true when the number of cases is small. It is conceivable that statistics based on a small series might present a more favorable calculated 10-year survival rate than for the five-year rate. Under the actuarial method this cannot happen. Moreover, if the successive rates for each year are desired, the direct method is laborious but the actuarial method provides a survival curve with comparative ease. All that is needed is the cards giving the last report, whether living or dead, and the operation date. Step One consists of dividing the cards into two groups, dead and living at last report. These groups are then sorted in order of length of interval. The group listed as dead at last report is taken first, in which cards are counted for each year. The living record is similarly disposed of. To obtain the totals for persons living at the beginning of each year is a simple procedure of addition. The next figure is to obtain the number of person-years to which these persons were exposed to living. That is done by subtracting half the total reported living at last report during the interval under consideration from the total of persons living at the beginning of this interval, the reason being that when last heard from the group was living but it is presumed that not all will have survived the year. The method of selecting 50 per cent is arbitrary but probably as accurate as any that could be obtained.

Next comes the problem of computing the probability of dying in the interval. That is done by dividing those listed dead during any year under consideration by the figure obtained under the column headed Person-Years Exposed. The probability of dying in the interval then becomes a percentage figure. The final figure, that of percentage of survival rate, is simply obtained by fractions. An arbitrary figure of 100, or if more convenient 1,000 or 100,000 may be selected, and when that figure is divided into the figure obtained under the column headed Probability of Dying in the Interval, the percentage is obtained. It is then easy to prepare a graph.

By way of example, suppose out of 374 persons, 95 are shown to survive at the beginning of the sixth year. During that year, seven are reported dead on last report and nine to be living. Since the living group was lost track of somewhere during this year it may be presumed that they were living at least half the year, so 4.5 is subtracted to obtain a figure for the person-years exposed, which is 90.5. The probability of dying in the interval between this and the successive year is 0.0773, which is obtained by dividing the total number of persons living in the beginning of this interval into the total number that died during this interval, that is dividing 95 into seven, according to this illustration. To obtain the survival rate for that year requires only figuring the percent that the probability of dying in the interval is to 100. The figure in this example would be 29.1.

To contrast this with average life expectancy causes difficulty because age groups might wish to

be considered. Under such circumstances the writer takes on the additional risk of inaccuracy that comes from smaller series. The normal age survival curve may be obtained from numerous sources. But again a problem exists in interpretation since it is an algebraic and not an arithmetical problem. The authors cite a problem in elementary algebra. If one man shoots at a rate of 70 per cent and a second at a rate of 10 per cent, out of 100 targets the two will not strike 80 but rather 73 targets. The same thing applies if those figures can be substituted to represent this problem. The cancer death rate is 70 per cent. The death rate from other causes is 10 per cent and the total is 73. In the article this is explained in detail but is mentioned here only to call attention to the many errors that might occur in the preparation of statistics unless great care is given to this portion of scientific literature.

The statistician may wish to trace a survival curve, for instance contrasting the average duration of life with the average duration of life of those patients who survive a cancer. Most statistics on this subject trace the curve only for a specified period, which is inaccurate. To obtain this information the author should follow the study to the point of zero survivors, and that of course is a difficult problem. Most statistics of this nature give only the shortness of life, while if carried to a point of zero survivors it would be found that the length of life would be considerably improved. Since that material is not available at the time the author wishes to prepare his paper, a median figure, a sort of average, is selected. This is the length of time required for 50 per cent of the individuals to have died. While not accurate in the overall picture it does at least provide a basis on which the other might be computed.

This lengthy review of a long article is presented here to point out the difficulties that will be encountered in attempting to compile statistics that are accurate and meaningful. The subject is fascinating and a short period spent in reviewing the problems of statistics will richly reward the physician who writes as well as the physician who reads.

Mind Your Own Business

The advice, "Mind your own business," is generally considered defiant and offensive, but even those most sensitive to harsh words regard it as wise counsel. However, no advice is good always; it must be tempered with judgment as to time, environment and circumstances. An example of judgment with which we heartily agree is found in an editorial published last month in the news letter of the Kansas Society of Professional Engineers. The title was "Mind Your Own Business."

The thoughtful engineer who composed the essay asked pertinent questions, "What is your own business?" "Do you actually have interests that are solely yours and yours alone?" He judged that in our modern, complex civilization no dividing line can be drawn between the business of one man and that of another. Each must consider his neighbor's interests as well as his own and expect to be affected by the adversities and successes of others. As an example the author cited the time of the depressing thirties, when economic forces which contributed to the collapse of one business exerted their influence also on others, with each collapse making other firms more vulnerable.

On the basis of such interlocked fates, the engineer views the threat of socialized medicine as a threat to those in his own profession, to the lawyer, to everyone. He recommends that engineers forget about minding their own business and concern thmeselves with the problem physicians now face, the threat of socialized medicine.

"A picture perhaps to appeal to the engineering mind," he said, "is to think of modern society as a bridge held up by piers made up of the various functions of American type living, among them the professions. The flood waters (socialism) are raging down the stream or river. The medical profession is one of those piers near midstream withstanding the terrific force of the turbulent water carrying its plunder with it. The stresses in the pier increase, from this unexpected lateral force, the pier now shows strain and, if the force should increase, it will give way leaving the other piers (the other professions) with increased stresses far beyond the yield point. Before the flood waters subside all the piers are gone and the bridge has collapsed and fallen into the murky, vicious, raging waters, not now able to stand on its own but travel where and how the stream carries it. It has no choice in its destination. To hold the bridge in place, all piers must be held intact. . . .

"Certainly the medical profession does not have the numerical strength to even scratch the surface politically, therefore he needs numbers. More strength to exert influence in legislative matters. If nothing more, moral support. The engineer can get better acquainted with the doctors in his community, express a desire to assist. Perhaps he can attend medical meetings as a speaker or invite doctors to appear before his own organization. He could write articles to appear in print. He can contact his legislative representatives. Ask his own family physician the part he, the engineer, can play. Entice the engineering organizations to become ac-

tive in support of the doctors to defeat the program. In short, get busy. Time is wasting. This may be the turning point, and let us not say in retrospect, 'It was too little and too late.' The flood washed out the whole bridge.

"Can the engineer afford to just mind his own business? We shall hope not."

The generous support of the engineering profession is appreciated and welcomed. With this help, and with the help of all other groups representing piers withstanding the flood, the bridge can stand.

Medical Student Loan Fund

Evidence of the interest of the Kansas Medical Society in the University of Kansas School of Medicine and its students may be found in the Society's recent gift of $10,000 to the University of Kansas Endowment Association to set up "The Medical Student Loan Fund of the Kansas Medical Society."

Some medical societies concern themselves only with licensed physicians, taking no active interest in the students of today who will be members of the medical profession in the future. In a number of ways the Kansas Medical Society has shown its interest in the professional side of the students' lives, through its preceptorship program, through the annual observance of Kansas Medical Day at the University of Kansas Medical Center, through complimentary subscriptions to the Journal for junior and senior students, through dissemination of information on the need for physicians in the state, through many other varied services always available to students. By this latest action the Society will help, in a small way, in an economic sense.

The following letter accompanied the gift check:

Mr. Irvin Youngberg, Executive Secretary
University of Kansas Endowment Association
Lawrence, Kansas

Dear Mr. Youngberg:

The Kansas Medical Society, by action of its House of Delegates, on May 16, 1950, approved a gift of $10,000 to be given to the University of Kansas Endowment Association. Please find enclosed a check for $10,000.

This gift is made with the expressed purpose of assisting students, during their third and fourth years in the School of Medicine at the University of Kansas, who are in need of financial aid. By action of our governing body, the following conditions were stipulated as to the use of this fund:

(1) This fund is to be known as "The Medical Student Loan Fund of the Kansas Medical Society" and is to be set up as a separate fund.

(2) That loans from this fund be limited to third and fourth year students at the University of Kansas School of Medicine.

(3) That the maximum loan at any one time per student be not more than $500.

(4) That the loans be made on the authorization of the Dean of the School of Medicine.

(5) That an advisory and grievance committee, consisting of the Dean of the Medical School, the President and the President-Elect of the Kansas Medical Society, is established, whose duty shall be to settle any grievances or controversies which might arise in connection with student loans.

(6) That an interest rate of two per cent be charged on these loans.

(7) That the loans will fall due not later than four years after graduation from the School of Medicine but that they may be renewed on an annual basis if proof of the necessity of this is forthcoming.

(8) That the Dean of the School of Medicine provide the President of the Kansas Medical Society annually the names of the students to whom money was loaned and the amounts of those loans made during the previous year.

With best wishes, I remain

Very truly yours,

Oliver E. Ebel
Executive Secretary

Good Citizenship

This is another good idea from Michigan, based on the startling results obtained in a survey on how Michigan doctors voted in the last election. They are as well informed on problems confronting free enterprise as are the physicians anywhere in this country. They were told to vote, but look at the results! Election books reveal that in one county only 42 per cent of the doctors took the trouble to vote. And that county produced the *best* record in the state. From there the percentage went downward to the poorest county with a score of zero!

Other states conducting similar surveys learned the same astonishing answer, and there is no reason to believe that Kansas could produce a very different story. Doctors simply did not vote in the last election. They were unwilling to give this nation of theirs the benefit of their intelligent selection. They want free enterprise, but they want someone else to guarantee it for them. They want freedom, but they want someone else to guard it.

Now Michigan plans to do something about it. In this election the good citizenship campaign will make every physician aware of his responsibility. This time he will vote. Committees in each county check registration books. If a doctor has not regis-

tered he is reminded of this fact and is urged to do so—not only the physician but his family and his office assistants as well.

Each doctor is asked to go further. He will urge every patient he sees to register and vote. He will do this daily without ceasing until the election is over. He will also accept the responsibility of talking to at least 20 of his friends about this and his wife will do the same. On election day these 20 will be called again.

Voting, as important as it is, represents only the smallest portion of an individual's responsibility. Good citizenship requires the active support of Americanism in all its phases. It means uniting with other individuals and groups to enlighten all people in their responsibility. It means taking a sincere interest in politics and public affairs on all levels. It means understanding the machinery of government and the qualifications of those persons who desire to run this machinery. It means making freedom your own personal business.

Voting is only one part of this but it is important. It's not merely a privilege, it is a solemn responsibility. Therefore, it should be discharged by every physician in Kansas. Become acquainted with the candidates, learn their views regarding good government, then vote for whoever best qualifies to meet the standards you have selected. But vote, for that is the fundamental principle of good citizenship.

Survey of College Health Services

A survey of college health services is now being conducted by the American Medical Association Bureau of Medical Economic Research, the first such survey since 1936. The purpose is to determine (1) what health services were rendered in 1949-1950 to college students, faculty members and employees through the college health service, (2) how these services were financed, and (3) what use the colleges are making of insurance companies, Blue Cross and Blue Shield types of health insurance plans.

Faculty Changes at K.U.

A number of faculty promotions at the University of Kansas School of Medicine were announced last month by Chancellor Deane W. Malott.

Dr. Albert N. Lemoine, Jr., who has been on the faculty since 1947, became chairman of the Department of Ophthalmology, succeeding Dr. John A. Billingsley, who wished to be relieved of some of his teaching duties. Dr. Lemoine is a diplomate of the American Board of Ophthalmology and a member of the Society for Research in Ophthalmology.

Other promotions announced were as follows:

Dr. William H. Algie to assistant professor of medicine; Dr. Max S. Allen, associate professor of medicine; Dr. Raymond B. Anderson, associate in pediatrics; Dr. William B. Barry, associate in otorhinolaryngology; Dr. Robert E. Bolinger, assistant professor of medicine; Dr. Kenneth Cox, associate in gynecology and obstetrics; Dr. Mahlon H. Delp, professor of medicine.

Dr. Harry L. Douglas, assistant professor of medicine; Dr. Ernest L. Glasscock, associate in pediatrics; Dr. Leroy Goodman, assistant professor of gynecology and obstetrics; Dr. Lee H. Leger, associate professor of medicine; Dr. Donald N. Medearis, associate professor of pediatrics; Dr. Sidney F. Pakula, associate in pediatrics; Dr. Edward Rabe, assistant professor of pediatrics.

Dr. David W. Robinson, associate professor of surgery and oncology; Dr. Clark W. Seely, associate in pediatrics; Dr. Glen R. Shepherd, associate in medicine; Dr. William T. Sirridge, associate in medicine; Dr. Harry Statland, associate in medicine; Dr. Barnard Trowbridge, associate in otorhinolaryngology, and Dr. Sloan J. Wilson, associate professor of medicine.

Survey of Grievance Committees

A survey of progress being made in the establishment of grievance committees by state and county medical societies, in accordance with a resolution passed by the House of Delegates of the American Medical Association in December, 1949, is now being made by the Council on Medical Service and the Department of Public Relations.

Of 37 states and the District of Columbia for which information is now available, 27 have made provision for handling grievances or complaints. Only 14 of the 27, however, use the name "grievance committee," indicating dissatisfaction with that title.

Optical Services Expanded

A series of eight new iris colors to supplement the present stock eye color range has been announced by the American Optical Company, which also reports several supporting services to give patients the equivalent of a custom-made eye at reasonable cost.

Any one or all of the following alterations are obtainable: (1) special sclera (either darker, lighter, yellow wash, or blue wash); (2) change in veining; (3) any color alterations necessary, including addition of flecks or additions of arcus senilus around the iris; (4) build-up of a normal stock shape from an impression taken of the socket or from wax additions; (5) special combinations not carried in stock.

Case Reports from the University of Kansas Medical Center*

Tumor Conference

Edited by R. E. Stowell, M.D.

Psychological Aspect of the Cancer Patient

Dr. Stowell: There are many aspects to the cancer problem and the cancer patient. We frequently concentrate on the diagnostic and treatment aspects of cancer cases and pay scant attention to the patient's mental and social reactions to cancer. Doctors must regard patients as more than problems with signs, symptoms and laboratory findings which represent exercises in diagnosis and treatment. Some of the more important yet neglected aspects of the cancer patient are his psychological reactions, and therefore we will devote this tumor conference to these problems. Dr. Roth, do you think the cancer patient should be told he has cancer?

Dr. Roth: If one knows the patient, what kind of background he has and how he has faced catastrophic events in the past, one can judge how he will react to being told he has cancer. Provided that you make allowances for the personality of the patient and prepare him, it is best to tell the patient the truth.

Dr. Orr: Psychiatric problems of more or less serious nature occur in surgical practice daily. These problems must be met by common sense and sympathetic understanding.

What effect do our present day methods of recognition and treatment of cancer have upon the mind of the patient? The prospect of having a cancer has always instilled fear in the hearts of the patients. I believe that we can safely say that our present methods of advertising to the public the dangers of cancer have increased this fear. Are we justified in creating this fear? I have heard arguments both pro and con concerning the publicizing of cancer. To those who do not believe in exciting the public about their health, I would ask this question. How can we as physicians bring people to the realization of impending health danger unless we publicize the danger? It is to be expected that fear of cancer will be exaggerated by many. This fear, I believe, will not be so deep-seated that it cannot be dispelled by a sympathetic physician. It is the obligation of the physician not to increase the fear by injudicious handling of patients.

One of the shortcomings of physicians is their lack of time for personal evaluation and treatment of patients. Many nervous and apprehensive patients have told me of rebuffs by their physicians. Such unintentional seeming lack of interest adds to the fear of patients particularly when cancer is concerned.

The average intelligent patient will seek advice when he fears cancer. There are a few who are not disturbed by any type of disease until they are hopelessly afflicted. There are another few who will not consult a physician because of the fear that something serious, especially cancer, will be found. And there are still others who believe that there is a Divine Providence who will protect them from the dangers of disease—and so they wait. A few will not accept good advice when it is given. These last two groups are hopeless. On close analysis, the conduct of these patients will be found to be based upon fear. They fear both the disease and the treatment, particularly the knife.

When a patient has incurable cancer, should he be told of his condition? A few patients will demand to know the whole truth. They must be told the truth. Others will not want to know the truth, and still others may ask about their condition and the whole truth can and should be evaded to avoid the great depression that is sure to follow the dreaded facts. To create false hope by withholding the truth may smack of dishonesty, but I do not believe any conscientious doctor can be considered dishonest when he tries to protect his patient from the terrible mental suffering that may be experienced by the incurable. When dealing with these incurable cancer patients, to withhold the truth is not to tell a lie. It is hardly necessary to state that the nearest of kin should be told the condition and the prognosis of the cancer patient in detail.

Dr. Friesen: We have some objective evidence[1] from patient interviews that will answer some of these questions regarding the patients' fear of being told they have cancer. We interviewed 100 patients with and 100 without cancer. Of the patients with cancer, 89 per cent wanted to be told if they had cancer. Although doctors and relatives of patients may believe they are protecting the patients from worry by not telling them they have cancer, usually they are only making it easier for the relatives. Many patients with cancer already are suspicious of the diagnosis. When 24 cancer patients were asked whether knowing they had cancer had altered their routine of existence or style of living, outside of any concomitant physical disability, the answer was "no." Before patients knew they had cancer, they thought their physicians were wasting time and money and were unable to diagnose their cases. A number of

*Cancer teaching activities aided by a grant from the National Cancer Institute.

patients became depressed when told they had cancer, but their emotional instability did not last longer than 24 hours to three or four days afterwards; they agreed they should have been told. Of the 100 patients without cancer interviewed, 93 indicated a desire to be told if a complete examination indicated they had cancer.

Dr. Delp: Some people think that the lay education program concerning the dangers of cancer should be as successful as the program with respect to syphilis. The only similarity to date between these two programs is the amount of publicity given. There is no doubt that syphilis has been brought before the public and something has been done about this disease. It is comparatively easy to make a diagnosis of syphilis with inexpensive serological reactions and to treat early syphilis effectively with penicillin. We are by no means prepared to meet the problem of diagnosis and treatment of cancer with the same ease or efficiency. A diagnosis of cancer implies to the patient the same sort of situation as a judge reading the death sentence to a prisoner. With cancer the patient fears death, with syphilis he only fears social ostracism.

Our technological skills, propaganda and advertising have so far surpassed the ability of the medical profession to meet the problems of cancer that such publicity has a bad effect. These false hopes cause resentment of medicine's inadequacy on the part of the patient before he dies and by his relatives after he dies.

Dr. Friesen: In the days before syphilis was as readily diagnosed and cured, there was about the same amount of fear and anxiety as is now shown by cancer patients. Today's progress in syphilis could not be foretold then. We cannot say when better diagnostic tests and therapeutic methods will permit comparable good results in cancer. Early treatment of many types of cancer today carries a better prognosis than many types of heart disease.

Dr. Delp: Some men say that this whole program is a grand hoax which the psychiatrists are perpetrating to get more psychiatric material. During the last war the psychiatrists pointed out convincingly that every human being has his own end point for stress and strain, beyond which he develops emotional instability. Now I contend that with the volume of stress coming over our radios—"180,000 cancer deaths last year. Have you seen your doctor this month? Do you know whether you have a cancer? You may be next!"—practically all of our 150 million people have reached their stress point. If the medical profession had been prepared for this publicity with a program of delivering actual curative therapy, the present bad situation would be quite different. These opinions are based on numerous observations on patients coming into my own office with our inability to make an early diagnosis by our best methods and to cure cancer even when diagnosed early.

The diagnosis and treatment of cancer is so capricious that I am impressed by the hopelessness of the frequent statement of radiologists and surgeons that "I would have saved your life if you had come a few months earlier." The medical profession must beware of the assumption of powers of omnipotence!

After being so critical of this program, I want to offer some constructive suggestions. Most intensive efforts should be directed toward education of medical students and practitioners to bring the greatest return in the shortest time. All this lay education should be immediately stopped.

Dr. Friesen: It isn't always the cancer patient who is at fault for not getting early treatment. A recent study indicated that patients were responsible for an average delay of seven to eight months in visiting their doctor. The average delay between the time the patient first saw the physician and treatment was started was six to seven months. The physician is often as guilty as the patient in not getting early treatment for cancer.

Dr. Stowell: Although the professional educational program should be increased, I do not think lay education should be discontinued. It might well be directed along lines of emphasizing the hopeful rather than the fearful aspects of cancer, as well as pointing out that cancer is a diverse group of diseases, some of which can be readily diagnosed and cured and others which cannot.

Many doctors think that cancerphobia is a symptom of a pre-existing neurotic background and not caused by newspapers, radio or motion pictures. If these people aren't neurotic about cancer, they would be about heart disease, insanity or pregnancy, or something else on which they can hang their neuroses. This difficulty is not new. According to an account by Wolfe, "in the year 1734, suddenly the whole female population of Bensancon was overcome by a fear that they were suffering from cancer of the breast or might be so affected in the future. This followed the suggestion of a surgeon to the women of that city that they examine their breasts for lumps. The sequel of this announcement was that all women examined their breasts so often and so long and squeezed them so much that a certain number really did develop lumps which were subsequently speedily removed by the surgeon with the greatest success."

Dr. Roth: If the neurotic patient goes to the psychiatrist and the cancer patient to the surgeon or

radiologist for treatment the situation would be improved. For the average patient with cancer the main problem rests with the general practitioner whose office should be the best cancer detection center.

References

1. Friesen, S. R., Kelly, W., and Wangensteen, O. H.: Do Cancer Patients Want to be Told? Surgery (In Press).

Advertising Program of A.M.A.

An advertising program including three media, newspapers, magazines and radio, has been announced by the American Medical Association for the week of October 8. A total budget of $1,110,000 has been approved by the Board of Trustees with $560,000 allocated to newspapers, $300,000 to radio and $250,000 to national magazines.

Whitaker and Baxter, directors of the A.M.A.'s National Education Campaign, announce the purpose as (1) to make the American people "health insurance conscious" and to encourage the extension and development of prepaid medical and hospital care as a means of taking the economic shock out of illness, and (2) to alert the American people to the danger of socialized medicine and to the threatening trend toward state socialism in this country.

The newspaper advertising schedule calls for blanket coverage of every bona fide daily and weekly newspaper in the United States, approximately 11,000 in total, including those in Hawaii and Alaska. The space reservation will approximate 70 inches in all papers.

About 30 of the leading national magazines and a score of advertising trade publications will be included in the magazine portion of the program.

The radio advertising program calls for an intensive "spot announcement" campaign, utilizing time on some 300 radio stations, covering every state and Hawaii and Alaska.

Study of Bomb Survivors

Japanese survivors of the atomic bombings at Hiroshima and Nagasaki have apparently recovered from the acute or immediate effects of the bombings, but within recent months the first evidence of delayed effects, the formation of eye cataracts, has come to light, according to records of the Atomic Bomb Casualty Commission of the National Research Council.

Since 1947 the A.B.C.C. has conducted continuous studies of the medical and genetics effects on the populations of the two bombed cities. Findings are reported in the scientific literature and are made available to the Department of Defense, National Security Resources Board, and other agencies who will be responsible for defense and relief measures in the event of an atomic disaster in this country.

At present the survivors have recovered from such immediate effects as loss of hair, temporary infertility, and blood changes. The study of long-range effects will require many years since definite information on inherited effects can be obtained only by observation of the victims' children and grandchildren.

A preliminary ophthalmological study was started last year and revealed 10 cases of cataracts believed to have been caused by the bomb. Subsequent examination of 1,000 persons who were within 3,000 feet of the point above which the bomb exploded, has led to the discovery of 40 certain cases of radiation cataract and an additional 40 suspected cases.

Trial of Penn Cancer Test

Arrangements have been made by the National Cancer Institute, Public Health Service, for a trial of the recently reported Penn cancer diagnostic test, described by Dr. Leonard A. Scheele, Surgeon General, as "most promising of the general tests for cancer so far reported." The tests will be conducted in Seattle as a cooperative project of the University of Washington and the Public Health Service.

The test is based on a serum flocculation reaction discovered in blood of cancer patients by Dr. H. S. Penn, of the University of California at Los Angeles. According to a report made recently, the test provides a simple and accurate means of determining whether an individual has cancer. In the procedure an extract or antigen derived from human cancerous liver tissue is added to blood serum taken from the person to be tested. The serum forms particles in suspension if the person has cancer, but remains cloudy if he is cancer-free.

Used on 4,500 persons in Los Angeles, the test was negative for 99.5 per cent of normal persons and positive for 98.6 per cent of those with cancer. Hospitalized cases of arthritis, liver disease, active tuberculosis, syphilis, and other diseases, and pregnancy, gave approximately 13 per cent false positive reactions.

Ultra-High Penetrating X-rays Produced

Development of the first 4,000,000 electron volts linear acceleration high voltage equipment for cancer treatment and nuclear physics research was announced by Phillips Industries at the International Radiological Congress held in London. The equipment produces ultra-high penetrating x-rays and has a rating of plus or minus 250 roentgens per minute at 40 inches distance. The first unit is now in operation in England, and more units will be available by the end of the year.

THE KANSAS PRESS LOOKS AT MEDICINE

Does the Pocketbook Come First?

The Independent, of Bridgewater, Mass., recently carried an article by a farm bureau spokesman who said, "Sad but true, most of us are more interested in our pocketbook than in our liberties."

The reason for this observation was that two meetings had been held in that area. One had to do with socialized medicine, which the farm bureau federation has strongly opposed. It was expected that about a thousand people would turn out but the actual attendance was only 200 and many of them were doctors. The next day there was a public hearing on plans to repeal the tax on cigars and tobacco, and 750 people appeared.

The writer said, "The general public should have been far more worried over the medicine that the government is trying to make us take than in the price of a good cigar.... Socialized medicine is just one step in a planned economy where government takes over certain key functions and controls all the rest."

Here is a tragic example of public lethargy toward great issues that will influence all our lives and the lives of generations to come. Socialized medicine, as Lenin once said, is an arch in the structure of the communist states. Current proposals for compulsory government health insurance are simply a prelude to eventual socialization. They are part and parcel of an all-inclusive scheme for giving the government iron-handed power over the resources and energies of the nation. And that is certainly more important than the price you have to pay for tobacco!

Every possible means must be used to awaken the general public to the dangers that confront them. A sleeping nation, unaware of what is going on, is just what the socialists want.—*El Dorado Times, April 24, 1950.*

* * *

Not even the promise of free medical service during his stay in Blighty will lure P. H. Baum, general manager of the Wm. Kelly Milling Co., to England for an international millers convention come summer.

Baum's enthusiasm for our own semi-Socialistic government is well controlled, and he doesn't believe he would enjoy the real McCoy.

"Even if you were sorely in need of medical service you might have to queue up and wait long hours, even weeks, before the doc could get to you," we warned him before his announcement he wouldn't go.

Somehow we can't see socialized medicine working in the way the bright eyed bureaucrats picture it. The under-privileged homes produce a majority of the night calls which disrupt physicians' sleep and health. A socialized doctor isn't going to disturb his rest to make a call. He'd simply tell the caller to "come around tomorrow afertnoon at two and await your turn." There would be no incentive to make the call.

Socialism is a beautiful theory, but just won't work. When the government sets out to make everyone as poor as the poorest, as has been done in Britain, it takes away the incentive on which our country has been built."—*Hutchinson News-Herald, April 23, 1950.*

Laboratory for Research Opened

The opening of a new laboratory for research involving radioisotopes at the National Institutes of Health of the Public Health Service was announced last month by the Public Health Service. It is one of the few radioisotope laboratories in America designed solely for medical research.

Some of the projects to be studied at the laboratory are: (1) a study with radioactive iodine to determine how the thyroid gland function depends on dietary intake for both normal and thyroid tumor tissue; (2) a study of the biological effects of Alpha particles from radon, and a comparison of these effects with other types of radiation, especially x-rays; (3) a study of radioactive phosphorus involving the metabolism of various phosphorus compounds; (4) a study with Carbon-14 to determine the distribution of chemotherapeutic agents thought to have value in the treatment of cancer.

The working center of the new unit consists of five chemistry laboratories with concrete walls two feet thick. Each of these is equipped with three closed hoods, making possible as many as 15 different experiments at one time. Operations are under the constant supervision of a radiation safety group consisting of five scientists who are trained in the proper handling of radioactive substances.

There is a close relationship between the atmosphere and the climate and the presence or absence of substances in the air which produce asthma and hay fever in allergic persons, according to Dr. Carl P. Wagoner of Vancouver, Washington, in an address at a recent meeting of the American College of Allergists. Too often, the doctor warned, these reactions are mistaken for a common cold and treated with sulfa drugs and the new antibiotics unnecessarily. In this way, these allergic patients all too frequently become seriously allergic to the drugs so uselessly administered.

BLUE SHIELD

Survey of Charges

December 1, 1949, when the current Blue Shield plan was put into effect, a new service statement was mailed to physicians. The service statement requests that physicians state the actual charges they are making in the case without reference to whether or not the patient has Blue Shield. In other words what is desired is an actual picture of the regular charges made by participating physicians for the various procedures.

The first survey relating the Blue Shield payment to the charges made by physicians has just been completed. This survey is based on the majority of the surgical cases paid during April, 1950. Of 1,814 total surgical cases, 1,521 showed the actual charges made by participating physicians. In other words, a high percentage of the reports was filled out accurately.

The study shows that Blue Shield paid participating physicians 69 per cent of their actual charges for the procedures. While this average payment reflects the fact that Blue Shield is doing a good job throughout the state in the way of protection, there are some variations in certain procedures in certain areas which do not reflect this excellent picture. The study made also indicated in several instances that the highest charge made for various procedures was three and one-half to four times the amount of the Blue Shield allowances, which means that a few members may have the idea that the protection offered by Blue Shield is not very substantial. Listed below are a few leading procedures excerpted from the April study.

Procedure	*Average Payment*	*Average Charge*
Tonsillectomy	$ 27.00	$ 37.00
Lacerations	9.00	12.00
Appendectomy	100.00	126.00
Circumcision, baby	5.00	9.00
D and C	24.00	37.00
Hemorrhoidectomy, internal	50.00	91.00
Hernioplasty, single	74.00	111.00
Circumcision, child	9.00	13.00
Cholecystectomy	150.00	177.00
Panhysterectomy	149.00	203.00
Hysterectomy, vaginal	126.00	183.00
Blood transfusion	14.00	20.00
Breast tumor, removal	24.00	39.00
Tumors complicated, removal	24.00	62.00

These comparative studies will be made on a quarterly basis in the future and it is expected that they will be of great value in helping the Blue Shield Board arrive at a better understanding of the actual charges being made by physicians throughout the state. Participating physicians are urged to cooperate in this statistical program by completing the service statement showing their actual charges in each case.

Inauguration Broadcast

For the first time in the history of the American Medical Association, the inauguration of the new president, Dr. Elmer L. Henderson, Louisville, Kentucky, was broadcast. The program, originating at the A.M.A. meeting in San Francisco, was carried over the Mutual and A.B.C. chains.

The House of Delegates was actually in session during the half-hour broadcast. Speaker F. F. Borzell, Philadelphia, called the House to order, after which brief addresses were given by Dr. Louis H. Bauer, Hempstead, New York, chairman of the Board of Trustees, and Dr. Ernest E. Irons, Chicago, the retiring president. Dr. Henderson then delivered a 20-minute address.

In closing the program, the announcer said, "Today, American medicine is leading a great crusade to mobilize loyal Americans to preserve the ideals of free men—and to halt the march of state socialism in this nation. This program has been a dramatic presentation of doctors in their new role as crusading citizens."

Award for Research on Infertility

The American Society for the Study of Sterility offers an annual award of $1,000 known as the Ortho Award for an outstanding contribution to the subject of infertility and sterility. Competition is open to those in clinical practice as well as individuals whose work is restricted to research in the basic sciences. Essays for the 1951 contest must be received not later than March 1, 1951.

Details of the award may be secured from the Society, 20 Magnolia Terrace, Springfield, Massachusetts.

Fellowships Offered by A.C.P.

A limited number of fellowships in medicine, designed to provide an opportunity for research training in basic medical sciences or in the application of these sciences to clinical investigation, will be available from July 1, 1951, to June 30, 1952, according to a recent announcement from the American College of Physicians. The fellowships are for the benefit of physicians preparing for a teaching and investigative career in internal medicine. Stipends will be from $2,200 to $3,200. Application forms may be secured from the College, 4200 Pine Street, Philadelphia 4, Pennsylvania, and must be submitted in duplicate not later than October 1, 1950. Awards will be made in November.

ACTIVITIES OF MEMBERS

Four Wichita physicians, Dr. L. A. Donnell, Dr. Bruce P. Meeker, Dr. Clyde W. Miller and Dr. Lester Nix, are constructing a $100,000 building on North Minnesota, Wichita, under the corporation name of Medical Arts Building, Inc.

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Dr. Athol Cochran, Pratt, was guest of honor at a reception at Iuka May 21. Dr. Cochran is moving from Pratt to Joplin, Missouri.

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Dr. O. R. Brittain, Salina, made a gift of a portable x-ray machine to Kansas Wesleyan University, Salina, for use in physics courses.

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Dr. Robert Hull, formerly of Wichita, is now associated with Dr. L. Claire Hays in practice in Cedar Vale and Sedan.

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Dr. Frank C. Boggs, Topeka, served as chairman of a committee planning a reunion of the class of 1910 of the Washburn Medical School. Other Kansas physicians in the class are Dr. Porter Brown, Salina; Dr. O. A. McDonald, Topeka, Dr. William A. Smiley, Junction City. The class of 1900 met with the group. Dr. W. L. Borst, Topeka; Dr. H. O. Hardesty, Jennings, and Dr. J. C. Shaw, Topeka, were members of the class of 1900.

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Dr. Galen M. Tice, of the University of Kansas Medical Center, was one of the guest speakers at a meeting of the South Dakota Medical Society held in Huron, South Dakota, May 23. His subject was "Differential Diagnosis of Malignancy in the Gastro-intestinal Tract."

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Dr. A. E. Bair, who has been practicing in Independence during the past three years, has gone to Wichita for a three-year residency in surgery at Wesley Hospital.

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Dr. R. M. Gouldner, Wichita, gave the address at graduation exercises at the St. Francis Hospital School of Nursing, Wichita. Dr. A. E. Hiebert, Wichita, represented the hospital staff on the program.

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Dr. C. C. Hawke, Winfield, spoke at a meeting of the American Association on Mental Deficiency at Columbus, Ohio, recently and was elected a member of the council of the association. Later he addressed a meeting of the Michigan Governor's Commission in Ann Arbor, Michigan.

Dr. F. C. Beelman, secretary of the Kansas State Board of Health, addressed the Utah Public Health Association at Logan, Utah, May 25. He then went to Portland, Oregon, to attend the annual meeting of the American Board of Preventive Medicine and Public Health, serving as a trustee on the board.

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Dr. Paul W. Schafer, chairman of the department of surgery at the University of Kansas Medical Center, is in Japan this summer as a member of the Unitarian service committee's medical mission. For three weeks, beginning July 17, he will teach representatives from 22 Japanese medical schools, at Tokyo, and for a second period he will teach students from 24 schools at Osaka.

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Dr. Anthony Rossitto, Wichita, discussed responsibilities of nurses at a banquet of the St. Joseph's-Wichita Hospital Alumnae Association, Wichita, May 22.

* * *

Dr. Ray T. Parmley, Wichita, recently became a diplomate of the American Board of Anesthesiology.

* * *

Dr. V. G. Henry, of the Axtell Clinic, Newton, has been granted leave to accept a fellowship in the department of anesthesiology at the Lahey Clinic, Boston.

* * *

Dr. Robert E. Stowell, director of cancer research at the University of Kansas School of Medicine, is one of 10 American scientists attending the Fifth International Cancer Congress in Paris this month. He will present a paper on his work at the Medical Center.

* * *

Dr. George I. Thacher, Waterville, was re-elected to his 16th term as president of the Kansas State Board of Health last month. Dr. R. T. Nichols, Hiawatha, was re-elected vice president, and Dr. F. C. Beelman, Topeka, executive officer and secretary.

* * *

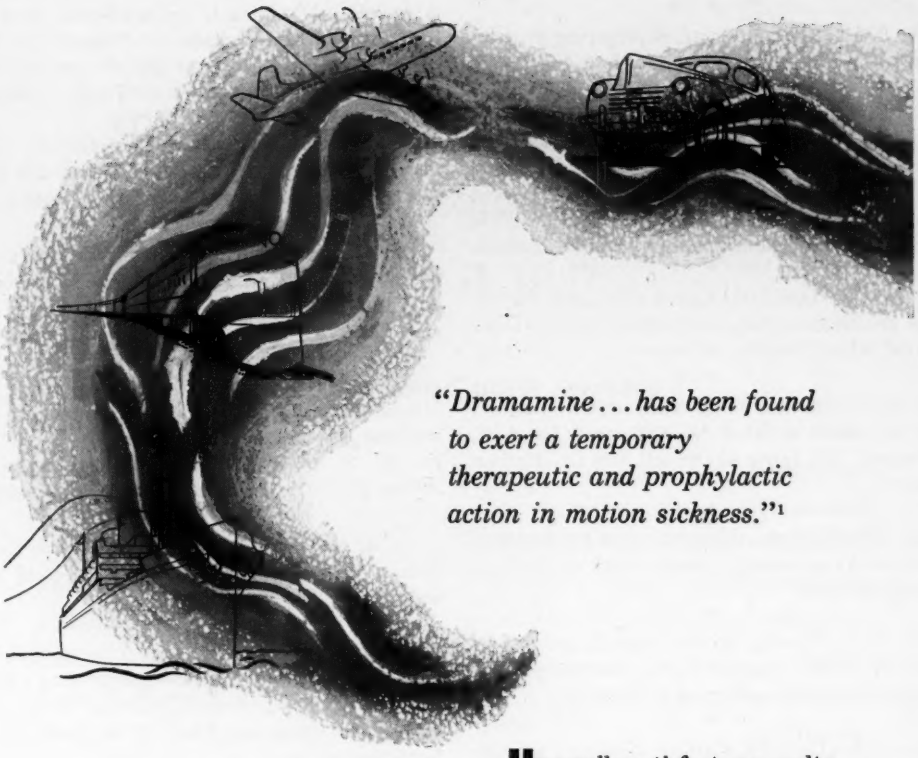
Dr. William E. Grove of the Axtell Clinic, Newton, has been certified as a diplomate of the American Board of Surgery after recent examinations in New Orleans.

* * *

Dr. L. A. Donnell, Wichita, has filed as a Democratic candidate for the Fourth District Congressional seat now held by Ed Rees, Emporia.

* * *

Dr. Franklin D. Murphy, dean of the University of Kansas School of Medicine, has been appointed a member of the Special Medical Advisory Group to assist the Administrator of Veterans Affairs and the chief medical director of the V.A.



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1. Council on Pharmacy & Chemistry: New and Non-official Remedies, 1950, Philadelphia, J. B. Lippincott Co., 1950, p. 460.

*Trademark of G. D. Searle & Co., Chicago 80, Ill.

SEARLE RESEARCH IN THE SERVICE OF MEDICINE

Dr. George Armitage, Hutchinson, has moved to Osceola, Iowa, to establish a practice there.

* * *

Dr. P. G. Miller, Anthony, is preparing to retire from practice because of poor health.

* * *

Dr. Donald L. Rose, of the University of Kansas Medical Center, has been appointed a consultant on education to the Council on Medical Education and Hospitals of the A.M.A. and has also accepted an appointment as a consultant in physical medicine to the National Foundation for Infantile Paralysis.

* * *

Dr. O. W. Davidson, Kansas City, gave the address at commencement exercises at the Boys' Industrial School, Topeka, on June 2.

* * *

A new building is being constructed in Junction City for offices of Dr. F. W. O'Donnell, Dr. A. E. O'Donnell, Dr. Harry O'Donnell and Dr. Herbert Bunker.

* * *

Dr. Alfred Horejsi, Ellsworth, spent the month of June in Chicago taking graduate work at the Cook County Hospital.

* * *

Dr. G. A. Westfall, Sr., was recently honored by the staff of the Hertzler Clinic, Halstead, on the completion of 20 years service at the clinic.

* * *

Dr. C. B. Harris, Sr., Garnett, received a Masonic pin recently in recognition of 50 years membership.

* * *

Dr. O. C. Lowe, Paola, announces that Dr. Glen Martin is now associated with him in practice. Dr. Martin was graduated from the University of Kansas School of Medicine and has just completed his internship at St. Francis Hospital, Wichita.

* * *

Dr. C. H. Benage, Pittsburg, addressed the Business and Professional Women's Club of that city recently on the subject of health insurance.

* * *

Dr. J. H. McNickle, Ashland, was named president of the Chamber of Commerce of that city at a recent meeting.

* * *

Dr. D. B. McKee, Pittsburg, was guest speaker at a meeting held at Mt. Carmel Hospital June 2. Members of the Junior Chamber of Commerce and the Optimist Club were guests. Dr. McKee spoke on "The Hospital and the Community."

* * *

Dr. Ray Busenbark has resigned as coroner of Wyandotte County and Dr. Fred C. Young is now serving as deputy coroner.

Dr. T. G. Duckett, Hiawatha, has announced that Dr. Arthur L. Nichols is now associated with him in practice. Dr. Nichols was graduated from the University of Kansas School of Medicine in 1943 and for the past three years has been serving as a medical officer in the Navy in the Pacific theater.

* * *

Dr. O. W. Davidson has been named vice chairman of the Committee on Public Health and Welfare of the Kansas City Chamber of Commerce.

* * *

Dr. Fred Brenneman, Hesston, announces that his brother, Dr. Paul Brenneman, is now associated with him in practice, moving to Kansas from Trevose, Pennsylvania.

* * *

Six physicians in Junction City will occupy new offices in the fall when a building now under construction is completed. The six are: Dr. W. A. Carr, Dr. W. A. Smiley, Dr. Robert M. Carr, Dr. Ed Smiley, Dr. Leslie Brethour and Dr. W. A. Smiley, Jr.

* * *

Dr. A. N. Gray addressed the Burlington Rotary Club at a recent meeting on the subject of child welfare.

* * *

Dr. A. T. Steegman, professor of neurology at the University of Kansas Medical Center, read a paper on "Anterior Spinal Artery Syndrome" at the meeting of the American Academy of Neurology in Cincinnati in April.

Externship Program at State Hospital

Fifteen medical students from seven schools are participating in a new externship program at Topeka State Hospital this summer as a part of the hospital's training program which now includes psychiatric residency, psychological internship, psychiatric social work, field placement and psychiatric aide programs.

The extern program has two purposes: (1) to help cope with a large backlog of medical and surgical problems, and (2) to interest medical students in psychiatry and in the possibilities for further training at the hospital. The externs serve as clinical clerks, do laboratory work and give medical examinations under supervision. They attend clinical and teaching conferences at Winter VA Hospital and also in other Topeka hospitals. Dr. Robert J. Kinney, chief of the department of internal medicine, directs the program.

Medical schools represented are Emory University, University of Georgia, University of Iowa, University of Nebraska, University of Rochester, University of California at Los Angeles, and Washington University.

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COUNTY SOCIETIES

The Tri-County Medical Society, composed of Cowley, Sumner and Kay Counties, held a meeting in Ponca City June 15. Dr. Robert McClure, Toronto, Canada, a member of the Royal College of Surgeons, spoke on "Present Trends in Ulcer Surgery," and also discussed "China's Challenge to Western Culture."

* * *

Dr. E. L. Gann, Emporia, was speaker at a meeting of the Lyon County Society held June 6. He spoke on "Deep Neck Infections."

* * *

Dr. and Mrs. C. E. Henneberger, Dr. and Mrs. E. T. Gertson and Dr. and Mrs. F. E. Bishop entertained members of the Northwest Kansas Medical Society and Auxiliary at a buffet supper at the Ranch House, Atwood, May 7.

* * *

The Bourbon County Society was host to the Southeast Kansas Medical Society at a dinner at the Fort Scott Country Club, June 6. Dr. Charles C. Dennie of Kansas City, president of the American Dermatological Society, was guest speaker.

* * *

A meeting of the Cowley County Society was held at Winfield June 9. Three resolutions were adopted, endorsement of the Cowley County Joint Board of Health, recommendation of a standard food and restaurant ordinance, and endorsement of a plan of milk sanitation for the county.

Drugs Available for Seasickness

Benadryl, hyoscine and artane have been found to be as effective as dramamine in prevention of seasickness by air force medical researchers, according to recent information from the Department of Defense. Experiments were conducted on 1,000 volunteer subjects on a round-trip voyage from New York to Bremerhaven, Germany, aboard the Army transport General Maurice Rose, a 16,000-ton ship.

The experiments were conducted to test several drugs which had been proposed as useful in prevention of motion sickness and to determine if the anti-histaminic properties in some of the drugs made them valuable as motion sickness preventives. The researchers reported that the preventive and therapeutic actions in motion sickness are not related to the anti-histaminic qualities. They believe that a combination of the drugs, retaining the protective qualities and eliminating undesirable reactions, will be found.

DEATH NOTICES

CLAUDE E. McCARTY, M.D.

Dr. C. E. McCarty, 77, an active member of the Ford County Medical Society, died at a Dodge City hospital May 24. He was the first white child born in Dodge City, in 1873, and spent his entire life there except for attending Rush Medical College, Chicago, where he received his medical degree in 1897. He then joined his father in practice. His specialty was surgery, and he was a fellow of the American College of Surgeons.

* * *

CLEMENT E. GRIGSBY, M.D.

Dr. C. E. Grigsby, 81, died at his home in Coffeyville May 29. He was graduated from Ensworth Medical College, St. Joseph, Missouri, in 1893 and received his Kansas license in 1901. He opened an office at Spivey but a short time later became physician at the Kansas State Penitentiary at Lansing, where he remained eight years. He then began practice in Coffeyville, continuing until the day of his death. He was an active member of the Montgomery County Society.

* * *

CHARLES MAXWELL JENNEY, M.D.

Dr. C. M. Jenney, 71, died suddenly June 13 at his home in Salina. He was an active member of the Saline County Society. Born in 1879, he was graduated from the Homeopathic Medical School, Chicago, in 1904, and received his Kansas license the same year. He specialized in pediatrics.

* * *

HOMER EVERETT MARKHAM, M.D.

Dr. H. E. Markham, 83, a member of the Franklin County Society, died June 19 at his home at Ottawa after a year's illness. He was graduated from Rush Medical College, Chicago, in 1892, and had practiced in Ottawa since 1912.

* * *

CARL FERDINAND NELSON, M.D.

Dr. C. F. Nelson, 68, a member of the Douglas County Society, died at Watkins Memorial Hospital, Lawrence, June 4. A native of Sweden, he came to this country as a child and came to Kansas in 1913 to teach at the University of Kansas. In 1916 he took leave to earn his medical degree at Rush Medical College, Chicago, after which he became chairman of the department of bio-chemistry at Kansas University. He retained that post until 1947, when he retired, although he continued to teach.

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ABSTRACTS FROM CURRENT LITERATURE

DHE-45 in Herpes Zoster

DHE-45 for Pain in Herpes Zoster. By Frank C. Combes, Orlando Canizares and Socorro Simmangco, J. Invest. Dermat., 14:53-56, 1950.

An ergot derivative, dehydroergotamine methanesulfonate, called DHE-45, appears to be useful in the control of pain associated with herpes zoster.

In 30 out of 40 cases treated at Bellevue Hospital, New York City, the results were classified as satisfactory or excellent. Pain was relieved almost completely after each injection for eight hours to three days in 17 patients.

The drug is administered intravenously or intramuscularly. If an initial dose of 1 cc. is ineffective, 2 or 3 cc. is given.

Side effects are few. Some patients may have a slight fall in blood pressure immediately after the injection, transient headache, or bradycardia.

Aside from analgesic action, which is effective at any stage of the disease, DHE-45 does not influence the course of herpes zoster.—*E. L. G.*

* * *

Subacute Thyroiditis

Subacute Thyroiditis. By George Crile, Jr., and Eugene W. Rumsey, J.A.M.A., 142:458-462, Feb. 18, 1950.

Subacute thyroiditis may be defined as an acute or chronic, self limited inflammation of the thyroid gland, probably initiated by a virus infection, and prolonged by a granulomatous reaction to the displaced or perverted colloid.

The disease may be divided into the acute and chronic phase, the acute phase being manifested by local signs of fever, sore throat, severe pain on swallowing and exquisite tenderness of the affected portion of the thyroid gland, generally recognized as an acute non suppurative thyroiditis. The chronic phase was less severe, but a protraction of the same symptom complex, and was usually called granulomatous or giant cell thyroiditis. Other types of thyroiditis such as struma lymphomatosa (Hashimoto) and Riedel's struma are distinct entities unrelated to subacute thyroiditis, and not considered in this discussion.

Subacute thyroiditis has been noted after infections of the upper respiratory tract, measles, malaria, and scarlet fever, and hence the possibility of a filtrable virus has been suggested as an etiologic factor. The chronic phase may be the result of a foreign body reaction to colloid which escapes into tissue spaces when the cells lining the follicles are damaged by the virus infection.

The disease has been considered as relatively infrequent; however, since 1946 it has become more frequently recognized. Giordanengo in 1938 stated that only 54 cases had been reported since 1904. However, at the Cleveland Clinic, 38 cases of subacute thyroiditis had been observed in the years 1946 through 1948, as compared with only 27 patients in the 10-year period 1936 through 1945. The actual increase is probably due to better recognition of the disease. The age is usually between 30 to 50 and men are predominantly affected in a ratio of six to one.

Local symptoms: a sore throat, severe pain on swallowing, and exquisite tenderness of the thyroid with pain radiating behind the ear, occiput, face or jaw; may be frequently confused with infections of teeth, tonsils, or ear, all of which have been mistakenly treated in the presence of obscure thyroiditis without relief until treatment for thyroiditis was instituted, namely, roentgen radiation.

Systemic manifestation: fatigue, weakness and lassitude are prominent, with temperatures varying from 101 to 104 in the acute phase, and prolonged low grade fever for weeks or even months in the chronic phase. The symptoms of hyperthyroidism such as nervousness, tremor, weakness, excessive perspiration, heat intolerance, and palpitation were noted in about one-sixth of the cases. However, the basal metabolism is not diagnostic, varying from plus eight to 28.

On physical examination the thyroid gland is firm, and usually diffusely enlarged and tender. The entire gland may not be involved at one time; however, a progressive spread has been noted, giving this phenomenon the name "creeping or migratory thyroiditis." The gland is usually enlarged two-three times its normal size, and the amount of tenderness depends upon the stage of the disease.

Diagnosis: depends on the observation of a firm thyroid gland, which may be confused with pharyngitis, otitis, dental infection, influenza or fever of unknown origin. The chronic form may simulate globus hystericus, adenoma of the thyroid, carcinoma of the thyroid, hyperthyroidism or chronic nervous exhaustion. It is usually associated with a high sedimentation rate and low uptake of radioactive iodine. In doubtful cases, satisfactory biopsy specimens of the thyroid can be obtained by the use of Vim-Silverman liver-biopsy needle.

Pathology: the inflamatory reaction usually involves the entire gland, presenting a thyroid two-three times uniform enlargement, with a thin glistening capsule, and a cut surface abnormally white and avascular; turnip-like consistency. This differs from Reidel's struma in so far that in subacute thyroiditis the inflammatory process is limited to the thyroid, whereas in Reidel's struma there is

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extensive involvement of all the surrounding structures.

Microscopically, the picture is primarily that of a foreign body reaction—fibrosis, degeneration, and exudation, the focal accumulation of polymorphonuclear leukocytes forming microabscess, decreasing the acini in size and number, with mostly cuboidal epithelial cells, and various stages of disintegration. Scattered large giant cells, together with numerous focal areas of granulomatous reaction, have been responsible for the terms pseudo-tuberculous, granulomatous thyroiditis and giant cell thyroiditis.

Treatment: until recently the classic treatment of the acute stage has consisted of bed rest, sedatives and ice packs to the thyroid until the acute symptoms subsided. Iodine and chemotherapy antibiotics have proved no more effective than the conventional treatment. King and Rosellini have reported favorably on the use of thiouracil. Thyroidectomy has been advised in the chronic phase of the disease. However, for the past 10 years roentgen therapy has been the standard treatment of subacute thyroiditis at the Cleveland Clinic, and its results have been consistently good. The average dose of 600 to 800 r was dramatically prompt and complete. Thyroidectomy is not necessary.—*J. J. H.*

* * *

Surgery of the Heart

Surgery of the Heart. By Claude S. Beck, Post. Med., 6:132-135, Aug., 1949.

It is recognized that anoxia of even a small area of myocardium may destroy the coordinated heart beat and result in ventricular fibrillation. Experimental work in dogs designed to supply extra blood to the myocardium by means of grafting adjacent tissues to the surface of the heart resulted in significant vascular anastomoses in only a small percentage of experiments.

Somewhat better results were obtained by producing inflammation on the surface of the heart designed to stimulate the formation of cross-channels between coronary arteries. Thirty-seven patients with severe coronary disease were operated upon by these methods with beneficial results.

The next development was to put red blood into the coronary sinus. This has been done by two methods: (1) by implantation of the divided proximal end of the left common carotid artery into the side of the sinus; (2) by placing a free graft of vein between the aorta and the coronary sinus.

Dr. Beck states that in spite of the technical difficulty, they have obtained almost routine success with these operations in experimental animals. He found, "that after arterial blood was delivered to the coronary sinus it was possible to ligate a major coronary artery with little or no mortality and with little or no destruction of heart muscle. It may be difficult at this time to appreciate the significance of this observation." Dr. Beck feels that within the immediate future he will be ready to proceed with this type of surgery upon human patients suffering with coronary artery disease. He is convinced the operation will be highly beneficial. —*T. P. B.*

* * *

Oral Feeding in Infantile Diarrhea

Place of Oral Feeding in Infantile Diarrhea. By A. W. Chung and L .E. Holt, Jr., Ped. 5-3: 421-424, Mar., 1950.

About one year ago A. W. Chung presented evidence indicating that the customary practice of treating infantile diarrhea by a period of oral starvation followed by gradual resumption of full oral feeding was not a sound one. It was shown (1) that the intolerant intestine absorbed more food when more was given, and (2) recovery of tolerance was not delayed by oral feeding.

Darrow and his collaborators reaffirm the time honored view that the resumption of oral feeding before intestinal tolerance is regained is dangerous and precipitating dehydration and acidosis.

The authors believe a relapse may be defined as a loss of intestinal tolerance and that one should not conclude that a relapse exists merely because manifestations of diarrhea increase with an increased oral intake, for this does not mean that tolerance is failing, merely that it is being more rigorously tested. If the oral feedings had induced relapse or delayed recovery of tolerance, the duration of the disease in the oral fed group should have been greater, which was not found to be the case. If anything, the duration was shorter in the cases receiving full oral feedings throughout. Most of the diarrheal deaths occur in the severely malnourished infants.—*D. R. D.*

* * *

Paralysis Agitans

Treatment of Paralysis Agitans with Dihydro-beta-erythroidine. By Sidney Shapiro and A. B. Baker, Am. Jnl. Med., 8:2, 153-159, Feb., 1950.

These authors state that treatment of patients with paralysis agitans is a combination of intelligent use of drugs, exercise, and emotional readjustment. In general, drugs are more effective in treating the muscular rigidity of the disease, rather than the tremor. Principal drugs used to date are the atropine derivatives, and include hyoscine hydrobromide, rabellon, vinobel, and bellabulgara.

The drug to be reported on, dihydro-beta-erythroidine, is curare-like in its action, and is derived from a genus of trees and shrubs widely distributed in the tropics and subtropics. Beta-erythroidine was first used clinically in 1935 in treatment of spastic

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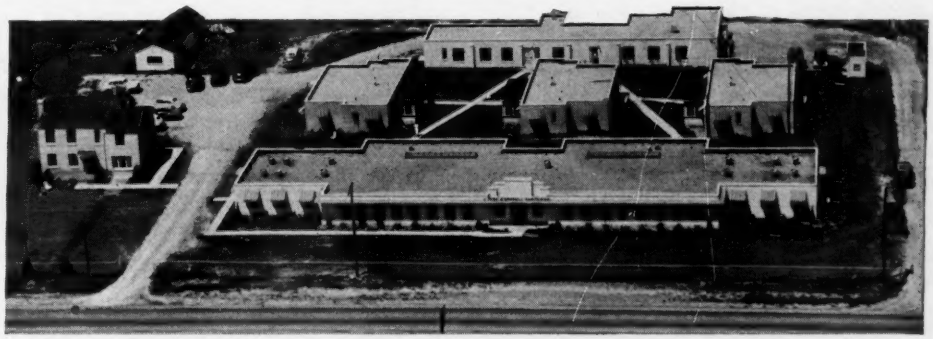

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dystonia. It was subsequently used in a large series of patients with spasticity of both pyramidal and extrapyramidal nature. The dihydro compound is more potent and its effect is longer lasting. When administered intravenously, the effect of the drug is indistinguishable from curare.

A series of 24 patients with long-standing paralysis agitans, who had received previously various atropine derivatives, were treated with dihydro-beta-erythroidine. The criteria for progress consisted of evaluation of efficiency in performing various ordinary daily activities.

Three of the 24 patients received the drug without added therapy and derived no benefit.

Five of the 24 patients were started on dihydro-beta-erythroidine, and atropine derivatives were added after intervals of 20 to 118 days. Two of these patients derived striking improvement from the combination.

The remaining 16 patients were started at once on the dihydro-beta-erythroidine plus one of the atropine derivatives. Ten of these patients noted striking benefit, with recrudescence on withdrawing the dihydro-beta-erythroidine.

Oculogyric crises were not affected by the drug. It acted almost exclusively on the muscular rigidity rather than the tremor.

This program of treatment was finally decided upon: give one of the atropine derivatives until maximum benefit has been obtained. Add dihydro-beta-erythroidine in dosage of 50 mg. four times a day. Maximum benefit from this addition can be expected within a month.

The drug is relatively non-toxic, producing occasionally only transitory gastrointestinal disturbances, blurring of vision, and dizziness.—*E. J. R.*

* * *

Aortic Embolectomy

Aortic Embolectomy (Successful Removal of Saddle Embolus by Transabdominal Route). By Harwell Wilson, J.A.M.A., 141: 389-390, Oct. 8, 1949.

The author presents a case of saddle embolus at the bifurcation of the abdominal aorta. This lesion is almost uniformly fatal unless surgery is employed. He reports that, in 1948, 21 cases of successful aortic embolectomy were on record. In the present case the onset of symptoms was abrupt. Both lower extremities became numb and cool and pain developed in both hips with sciatic radiation.

Five hours after the onset of symptoms a left paramedian incision was made. The abdominal viscera were retracted and the posterior parietal peritoneum opened over the bifurcation of the aorta which was constricted about a clot in this area. The embolus extended for a short distance into each iliac artery. Soft rubber tourniquets, held by forceps, were placed about the aorta and its two main branches and a longitudinal incision made over the lower aorta and right iliac artery. The embolus was extracted and the wound closed with continuous and interrupted silk everting sutures.

The source of the embolus was not determined. Usually there is some cardiac disease, which was not apparent in this case.

Post-operative phlebo-thrombosis developed but the patient recovered after one pulmonary embolus and bilateral superficial femoral ligation.—*T. P. B.*

New Section on Cardiovascular Advances

A new section reviewing the latest advances in the cardiovascular field and pointing out their practical application will be added to Circulation, the Journal of the American Heart Association, this fall. The section will be edited by Dr. Herrman L. Blumgart, professor of medicine at Harvard Medical School.

Contributions for the section will be prepared by recognized authorities and will range from 4,000 to 8,000 words, representing critical judgments of the current status of the subjects handled.

State Board Elects Officers

Dr. J. D. Colt, Manhattan, was elected president of the Kansas State Board of Medical Registration and Examination at a meeting held at Kansas City June 7, at the time examinations were given to 123 applicants for licenses to practice in Kansas. Dr. H. E. Haskins, Kingman, was named vice president, and Dr. O. W. Davidson, Kansas City, was chosen as secretary.

Government, like science, should be wholly and unselfishly dedicated to the betterment of humanity and the greater perfection of our liberties. These objectives can be achieved only in a nation in which men are free to govern themselves, free to create, free to think, free to manufacture ever better and cheaper goods, free to keep the proceeds of their genius so they may continue to spread its benefits ever wider for the benefit of all the people.

In the last 50 years free men and women, working in laboratories, hospitals, universities and at the bedside of patients, have added 20 years to the life span of the average American. In the last 35 years alone they have cut infant mortality by 75 per cent. . . .

All this has been done, let me emphasize, without socialized medicine. . . . The incredible achievements in health to which I have just referred have been made possible by the enterprise system, many of them in the pursuit of profit.—*Address given by Governor Thomas E. Dewey at the dedication of the Sterling-Winthrop Research Institute at Rensselaer, New York, May 17, 1950.*

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Surgical Technic, Surgical Anatomy & Clinical Surgery, Four Weeks, starting July 10, August 7, September 11.
Personal Course in General Surgery, Two Weeks, starting September 25.
Surgery of Colon & Rectum, One Week, starting September 11.
Esophageal Surgery, One Week, starting October 16.
Breast & Thyroid Surgery, One Week, starting October 2.
Thoracic Surgery, One Week, starting October 9.
Gallbladder Surgery, Ten Hours, starting October 23.
Fractures & Traumatic Surgery, Two Weeks, starting October 9.
Basic Principles in General Surgery, Two Weeks, starting September 11.

GYNECOLOGY—Intensive Course, Two Weeks, starting September 25.
Vaginal Approach to Pelvic Surgery, One Week, starting September 18.

OBSTETRICS—Intensive Course, Two Weeks, starting September 11.

MEDICINE—Intensive General Course, Two Weeks, starting October 2.
Gastro-enterology, Two Weeks, starting October 16.
Gastroscopy, Two Weeks, starting July 17, September 25.

DERMATOLOGY—Formal Course, Two Weeks, starting October 16. Informal Clinical Course every two weeks.

UROLOGY—Intensive Course, Two Weeks, starting September 25.
Cystoscopy, Ten Day Practical Course, every two weeks.

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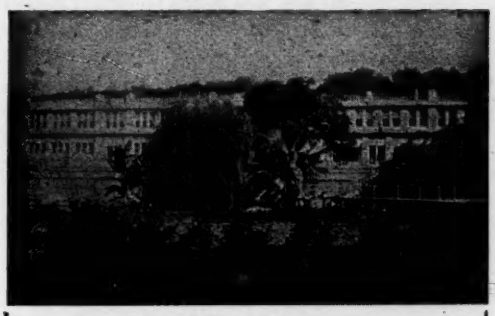

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New Format for List of Medical Literature

A new format for the Army Medical Library's Current List of Medical Literature has been announced by Major General R. W. Bliss, Army Surgeon General. Beginning with the July 1950 issue, the publication will be enlarged and published in two parts, a register, listing all contributions, and an index, listing multiple author and subject headings in dictionary form. The monthly indexes will cumulate into annual volumes comprising entries for approximately 80,000 articles.

The committee preparing the publication is being guided and assisted by scientific research in the field of medical indexing performed at Johns Hopkins University. Coordination of effort with other agencies engaged in similar programs, introduction of modern techniques, and research to discover pertinent data bearing on the problem, should provide medical scientists throughout the world with better bibliographical tools to medical literature than hertofore have been available.

Board Examinations Announced

The next scheduled examination (Part I) of the American Board of Obstetrics and Gynecology will be held in various cities of the United States and Canada on Friday, February 2, 1951. Applications may be made until November 5, 1950. Application forms and bulletins, incorporating changes made recently, may be obtained from Paul Titus, M.D., Secretary, American Board of Obstetrics and Gynecology, 1015 Highland Building, Pittsburgh 6, Pennsylvania.

Radio Series Available

A new series of medical radio transcriptions, available to county medical societies which will make local arrangements for broadcasting, has been prepared by the Bureau of Health Education of the American Medical Association. Complete information on the series may be obtained from the Bureau.

While each program deals largely with miscellaneous questions and answers, there is a central theme for each, including the following topics: headache, insomnia, feet, weight, rheumatism, relaxation, teeth, posture, accidents, colds, exercise, vision and hearing aids, and skin. The group makes up Series 24 in the transcription library of the Bureau.

Life Insurance Fund for Heart Research

A 1950 total of $670,000 has been allotted by the Life Insurance Medical Research Fund for the study of heart disease and the training of research scientists, according to recent announcements from the Institute of Life Insurance. The 1950 awards bring to $3,200,000 the total amount given by the Fund since it was organized late in 1945.

Because diseases of the heart and arteries are by far the commonest cause of death in America, the Fund has so far restricted its activities to this field, particularly the study of high blood pressure, hardening of the arteries and rheumatic fever. Financial support for the organization comes from 147 life insurance companies.

Plastic Surgery Award

The Foundation of the American Society of Plastic and Reconstructive Surgery offers as its 1950 award a first prize of $300 and a second prize of $200 for essays on some original unpublished subject in plastic surgery. Competition is limited to residents in plastic surgery or to practicing plastic surgeons who have been in such practice for not more than five years. Details of the award may be secured from Dr. Clarence R. Straatsma, 66 East 79th Street, New York, New York.

Malaria, smallpox, tuberculosis, venereal disease, diphtheria, many others, all could be gotten rid of —from the whole world, without any further knowledge or research, if we had mental health and social health in the people of the world, if enough people in enough places could think in factual terms and had good mental health. Nothing keeps the diseases alive except ignorance and short-sighted self-interest. Long-sightedness would get rid of those things quickly.—*Brock Chisholm, M.D., Mental Hygiene, July, 1948.*

The modern approach to health increasingly stresses personal responsibility, and to this end health education should include a knowledge of germs and how they are spread, of physiology and how to apply it, and of biology in its importance to the welfare of man.—*C. Fraser Brockington, M.D., The Lancet, October 22, 1949.*

ANNOUNCEMENTS

July 17-18—Fourth Annual Rocky Mountain Cancer Conference. Denver, Colorado. No Registration Fee. Write Cancer Conference, 519 - 17th Street, Denver, for Hotel Reservations.

August 28-September 1—Annual Scientific and Clinical Session, American Congress of Physical Medicine, Hotel Statler, Boston, Massachusetts. Full information from American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

October 12-14—Course in Postgraduate Gastroenterology, National Gastroenterological Association, Hotel Statler, New York City. Full information from Association, Dept. GSJ, 1819 Broadway, New York 23, New York.

October 23-27—36th Clinical Congress, American College of Surgeons, Boston, Massachusetts. Headquarters at Statler and Copley Plaza. Full information from A.C.S., 40 East Erie Street, Chicago 11, Illinois.

April 9-13—32nd Annual Session, American College of Physicians, St. Louis, Missouri. Full information from A.C.P., 4200 Pine Street, Philadelphia 4, Pennsylvania.

May 14-17—92nd ANNUAL SESSION, KANSAS MEDICAL SOCIETY, TOPEKA, KANSAS.

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BOOK REVIEWS

A Primer for Diabetic Patients, Ninth Edition. By Russell M. Wilder. Published by W. B. Saunders Company, Philadelphia, 1950. 200 pages, 9 illustrations, 8 tables. Price $2.25.

This latest edition, published four years after the last edition, of a popular book written for the patient and physician testifies to its acceptance and wide use. Dr. Wilder explains the necessity of this latest edition on the basis of a little more liberalness in dietary recommendations for patients using insulin and a little less rigidity in the control of glycosuria in diabetics taking insulin. However, the basic approach of fully instructing the diabetic about his disease and its management is rightfully maintained and the book shows little alteration as a whole.

It is clearly and simply written for the lay patient, although it does contain material useful to the family physician. This book is used as a text in the Diabetic School for patients at the Mayo Clinic and consequently contains questions for the patient to answer at the end of each chapter to insure his having grasped the essential points. All material written for the patient can be recommended without reservation.

In a chapter directed to the physician on the treatment of diabetics, acidosis and coma, Dr. Wilder's recommendation that the stomach be aspirated and lavaged with bicarbonate solution is not accepted by all authorities of diabetic management. The last 100 pages of the book are devoted to the diabetic diet and this material is directed primarily to the physician.

Although Dr. Wilder's attention to a weighed, quantitative diet is a worthy one, it is not often possible to apply with the average patient. Too often, the insistence on a weighed diet introduces such complexities and changes in routine for the patient as to make the difference between wholehearted cooperation with the doctor and little or no cooperation in controlling the diabetes. However, Dr. Wilder does list household measures in his recipes so that these will be of greater utility. The author also advises a greater proportion of fat in the diet than some other authorities now recommend.

There is a useful nomogram in the back of the book for calculating caloric requirements. The index is 13 pages long.

With the reservations noted above applying only to material written for the physician, this book can be fully recommended to family physicians and their diabetic patients. It is a valuable educational manual for the patient and a helpful workbook for the doctor.—G.R.S.

Squibb Provides "Video Medico"

An opportunity for Latin American surgeons and physicians to witness the latest demonstrations of surgical procedures by television is being provided this summer by E. R. Squibb and Sons under a project called "Video Medico." The programs will be presented at important medical meetings in five countries, Brazil, Argentina, Puerto Rico, Venezuela and Mexico.

Medical instruction by television has become an accepted procedure in this country, but physicians in Latin American countries have never before had an opportunity to see surgery by television. The same was true in Canada until last June, when the Squibb Company provided such presentations at the annual meeting of the Canadian Medical Association.

A little arithmetic convinces one that elaborate annual physical examinations involving complicated procedures and consuming much time of physicians are not the answer to early detection of conditions such as tuberculosis, cardio-vascular disease, cancer, syphilis, and diabetes. The cost is too great and there are not enough physicians.

The answer may lie in multi-phasic rapid screening conducted at the technician level. A number of such experimental programs are now being conducted. In only a few minutes, the person being examined will have a chest x-ray (which may reveal heart abnormalities or lung tumors as well as tuberculosis and certain other lung infections), and a blood specimen will be taken for determination of the blood sugar level and presence of syphilis antibodies. Perhaps other serologic tests will be made. Although physicians will be needed to interpret the tests, the tests themselves will be conducted by technicians.

Such a program will fail completely unless the medical profession is made to understand thoroughly the philosophy of the program, namely, that it does not take the place of the physician in making a diagnosis. In fact, no diagnosis will be made. Only suspected abnormalities will be screened out in this first procedure; the diagnosis will be made later in the physician's office and, it is hoped, at a stage when the physician may be more effective in administering treatment than would have been the case if the patient had waited until the development of full-fledged symptoms forced him to consult a physician.—*James E. Perkins, M.D., Bull. Nat. Tuberc. A., January, 1950.*

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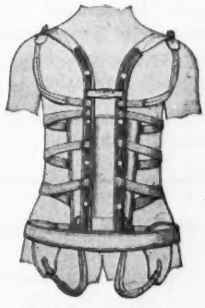

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